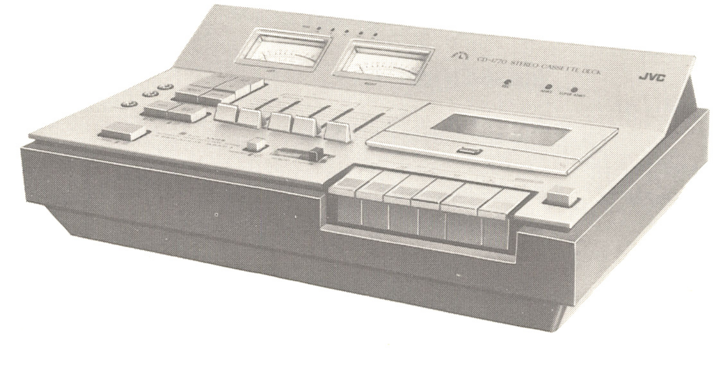
JVC

SERVICE MANUAL

MODEL
CD-1770/A/B/C/E
STEREO CASSETTE DECK



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Contents

Page
Specifications 2
Features 3
Controls and Connections 3
Main Parts Removing 4
  Enclosure Assembly 4
  Electrical Parts 5
  Mechanical Parts 6
Main Adjustments 7
Trouble Shooting Guide 12
Maintenance 13
Block Diagram 14
Page
Wiring 15
Standard Schematic Diagram 16
Circuit Board Parts 18
  Main Amp Circuit Board 18
  ANRS Circuit Board 22
  Switch Circuit Board 24
Mechanical Component 26
Enclosure Ass'y and Electrical Parts
  except Circuit Board Parts 32
Accessories 34
Packing 35

Specifications

Type	Stereo cassette deck
Track system	4-track, 2-channel
Cassettes	C-30, C-60, C-90
Frequency response	Chrome *1 20 – 18,000Hz (Nominal) 30 – 16,000Hz (Typical) Regular *2 20 – 17,000Hz (Nominal) 30 – 15,000Hz (Typical) Supasses DIN45500 *1 TP-18 or Equivalent *2 QP-12 or Equivalent
Signal-to-Noise ratio	56dB(JIS) The S/N is improved by 5dB at 1kHz and by 10dB above 5kHz with ANRS on 62dB with ANRS (DIN45500 weighted)
Effect of Super ANRS	(normal tape)
Improvement of S/N	the same as with ANRS
Improvement of frequency response	0VU recording; 6dB at 10kHz +5VU recording; 12dB at 10kHz
Imrpovement of distortion	0VU recording; 3% less at 10kHz
Wow and flutter	0.05% (WRMS) 0.18% (DIN45500)
Crosstalk	65dB
Harmonic distortion	1.2% (normal tape)
Bias	AC bias (95kHz)

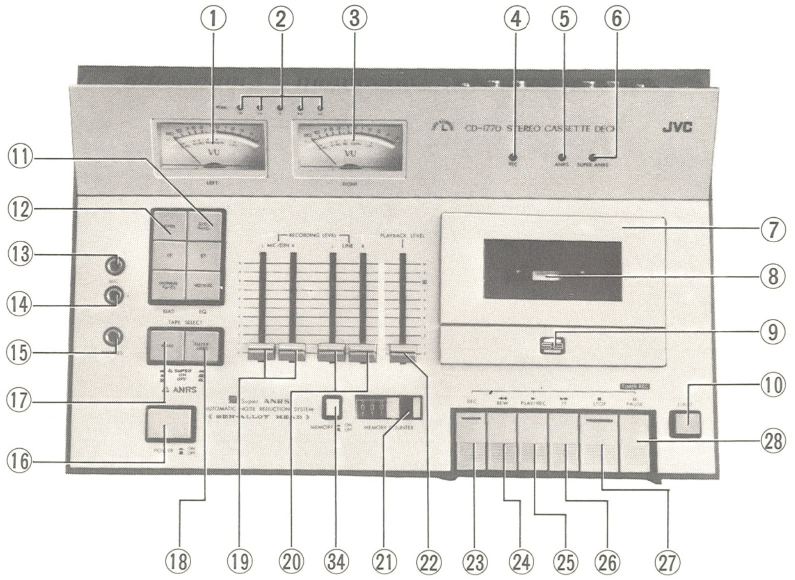
Erasure	AC erasure
Heads	Recording/playback = Sen-Alloy head Erasure = Ferrite head
Motor	Frequency control DC servomotor
Tape speed	4.8cm/sec
Recording time	2 x 30 minutes with C-60 cassette
Fast forward time	75sec with C-60 cassette
Rewind time	75sec with C-60 cassette
Semiconductors	6 ICs 40 transistors 2 SCR and 30 diodes
Input jacks	MIC jack x 2 Max. sensitivity 0.2mV Matching impedance 600Ω Input jack x 2 Min, input level 78mV Input impedance 100Ω
Output jacks	Output jack x 2 Output level 0~0.5V Output impedance 10kΩ Matching load impedance 6.8kΩ or more Headphone jack x 1 Output level 0.3mV Matching impedance 6.8kΩ or more
Power requirement	AC 120V, 60Hz (CD-1770/C) AC 240V, 50Hz (CD-1770A/B) AC 220V, 50Hz (CD-1770E)
Power consumption	30W
Dimensions	Width 16-1/2″ (420mm) Height 3-1/2″ (88mm) Depth 10-7/8″ (277mm)
Weight	12.1 lbs (5.5 kg)

Design and specifications are subject to change without notice.

Features

SEN-ALLOY head.
Built-in ANRS (U.S. Pat. 375 7254 and 376 9612) and Super ANRS.
Multi-point peak level indicators.
Timer recording and playback.
Mixing facility.
Wow flutter show high class mechanism.
Frequency controlled servomotor.
Full auto-stop.
Tape amount indicator.

Controls and Connections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CD-1770 STEREO CASSETTE DECK
JVC
VU
LEFT
RIGHT
REC
ANRS
SUPER ANRS
RECORDING LEVEL
MIC/DIN
LINE
PLAYBACK LEVEL
BIAS
EQ
TAPE SELECT
ANRS
Super ANRS
AUTOMATIC NOISE REDUCTION SYSTEM
SEN-ALLOY HEAD
MEMORY
MEMORY COUNTER
POWER
REC
REW
PLAY/REC
FF
STOP
PAUSE

Fig. 1

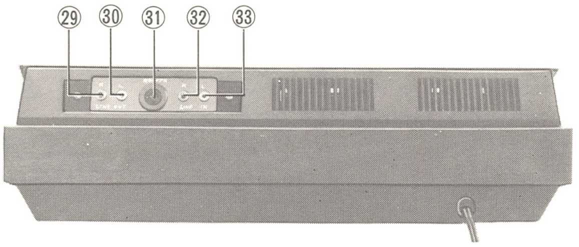


Fig. 2

1 Left channel level meter [LEFT]
2 PEAK level indicators
3 Right channel level meter [RIGHT]
4 REC indicator [REC]
5 ANRS indicator [ANRS]
6 Super ANRS indicator
7 Cassette door
8 Tape amount indicator
9 Head cover
10 Eject button
11 Equalizer switch [EQ]
12 Bias switch
13 Left channel microphone jack [MIC-L]
14 Right channel microphone jack [MIC-R]
15 Headphone jack [PHONES]
16 Power switch
17 ANRS switch
18 Super ANRS switch
19 MIC-REC level controls [MIC/DIN] (Left-[L] Right-[R]
20 LINE-REC level controls [LINE] (Left-[L] Right-[R]
21 Memory counter with reset button [COUNTER]
22 Playback level control
23 REC button
24 REW button [REW ◀◀]
25 Playback button [PLAY/REC ▶]
26 Fast forward button [FF ▶▶]
27 STOP button [STOP ■]
28 Pause button [PAUSE ❚❚]
29 Right channel LINE OUT terminal
30 Left channel LINE OUT terminal
31 DIN socket [REC/PB]
32 Right channel LINE IN terminal
33 Left channel LINE IN terminal
34 Memory switch

Main Parts Removing

This cassette deck which features a compact design and high performance uses minuature-sized parts which are closely arranged. Use special care when servicing it.

Enclosure Assembly

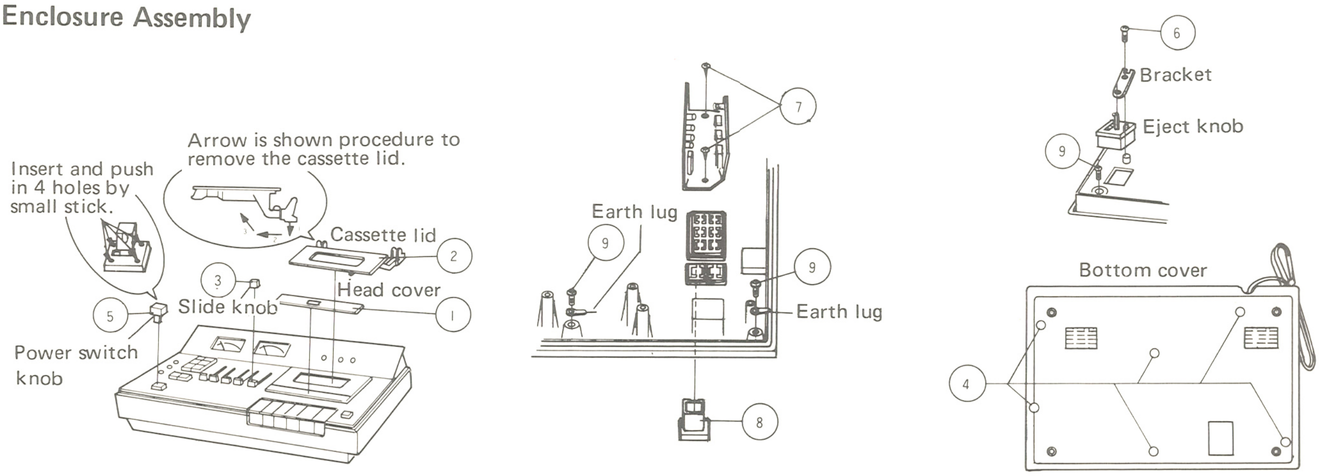

Arrow is shown procedure to remove the cassette lid.
Insert and push in 4 holes by small stick.
Cassette lid
2
3
Head cover
Slide knob
1
5
Power switch knob
7
Earth lug
9
9
Earth lug
8
6
Bracket
Eject knob
9
Bottom cover
4

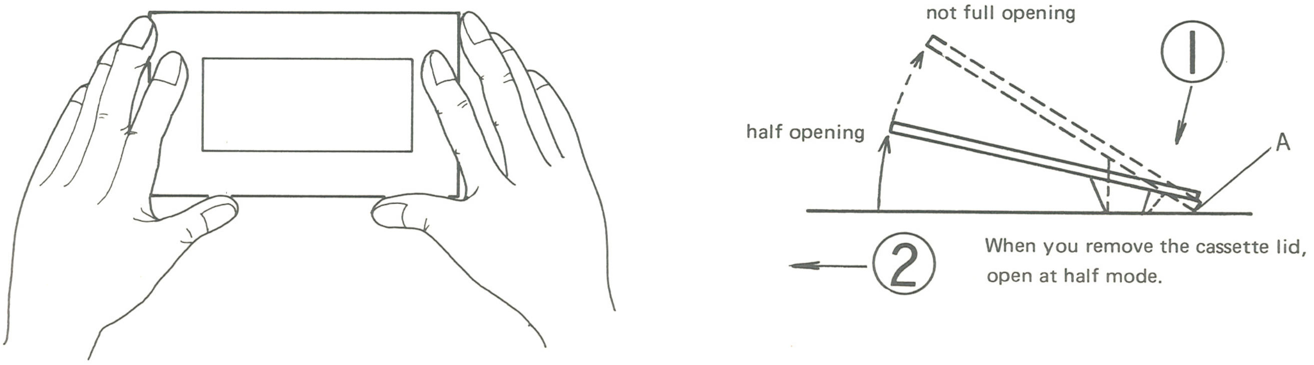
Fig. 3

Remove △ mark parts after removing the bottom cover.

Parts Name	Procedure	Ref. No.	Remarks
Head cover	Remove the head cover upward.	①	Remove it at the head cleaning.
Cassette door	1. Press the eject button, then the cassette door loading upward. 2. Remove the cassette door by pressing it under side.	②	● It can be removed for it's cleaning or replacing with other parts un-removing. ● When replace the cassette door, insert by pressing it under side, then one or other side of cassette door by full locked.
Slide volume knobs	Pull off it upward.	③	
Bottom cover	Remove 6 screws fastening the bottom cover.	④	When remove the bottom cover, can be removed the wood cabinet at as same. After removing the bottom cover only, can be adjusted semi-fixed resistors (VU meter gain, peak level and playback gain) on main amp C. board.
△Power switch knob	Insert and push in 4 holes near the power switch by small stick, then can be removed off the power switch knob.	⑤	When replace the knob, insert knobs guide plate in score hole of top cabinet.
△Eject knob	1. Remove 1 tapping screw fastening the bracket. 2. Remove the rope on eject knob.	⑥	
△Select knobs	1. Remove 2 screws fastening the switch C. board. (EQ & BIAS) 2. Remove SW. C. board with it's bracket. 3. Pull out the select knobs to outer or inner of the top cabinet.	⑦ ⑧	
Front panel	Remove 6 screws fastening the top cabinet, after removing the head cover, cassette door, botton cover and wood cabinet.	⑨	2 earth lugs can be removed as same the front panel.

Note:
When you remove or replace the cassette lid, be careful not to scratch A position on the front panel.

1. To remove
   You have to pull out the cassette lid at direction ② pushing down it at direction ① and controling for not scratch on the front panel (A) by your fingers.



When you remove the cassette lid, open at half mode.

Fig. 4

2. To replace
   At the first, have the cassette lid as same way to remove. Next, insert holder of it as equal right and left sides.
   At the same time, control for not scratch as same way to remove, and push in to locking the cassette lid.
   (The first push in left side, next, right side.)

Electrical Parts

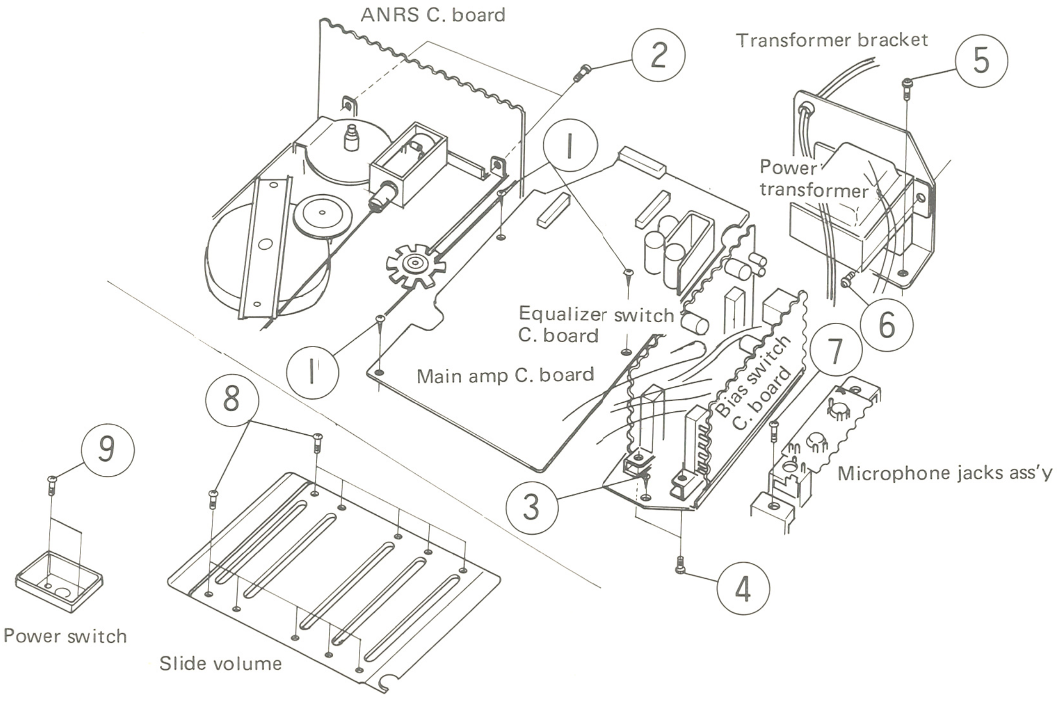

ANRS C. board
2
Transformer bracket
5
I
Power transformer
Equalizer switch C. board
6
7
I
Main amp C. board
Bias switch C. board
8
9
Microphone jacks ass'y
3
4
Power switch
Slide volume

Fig. 5

Remove electrical parts after removing the bottom cover.

Parts Name	Procedure	Ref. No.	Remarks
Main amp circuit board ass'y	Remove 3 tapping screws fastening the main amp circuit board.	①	
ANRS circuit board ass'y	Remove 2 screws fastening the ANRS C. board	②	
Switch circuit board ass'y	1. Remove 2 tapping screws fastening the bracket for switch C. board ass'y. 2. Remove 4 screws fastening the Bias SW C. board (2 p.c.s) and the EQ SW C. board (2p.c.s)	③ ④	Remove switch circuit board ass'y after removing the bracket for it.
Power transformer	1. Remove 2 screws fastening the trans. bracket. 2. Remove 2 screws fastening the transformer 3. Disconnect it's wires.	⑤ ⑥	
Mic jacks ass'y	Remove the Mic jacks ass'y after removing the front panel. Remove 1 screw fastening the Mic jacks ass'y.	⑦	
Slide level controls	Remove the front panel and the main amp C. board ass'y. MIC/DIN level controls..... 4screws LINE level controls........... 4screws Playback level control 2screws	⑧	
Power switch	Remove 2 screws fastening the power switch after removing the front panel.	⑨	

Mechanical Parts

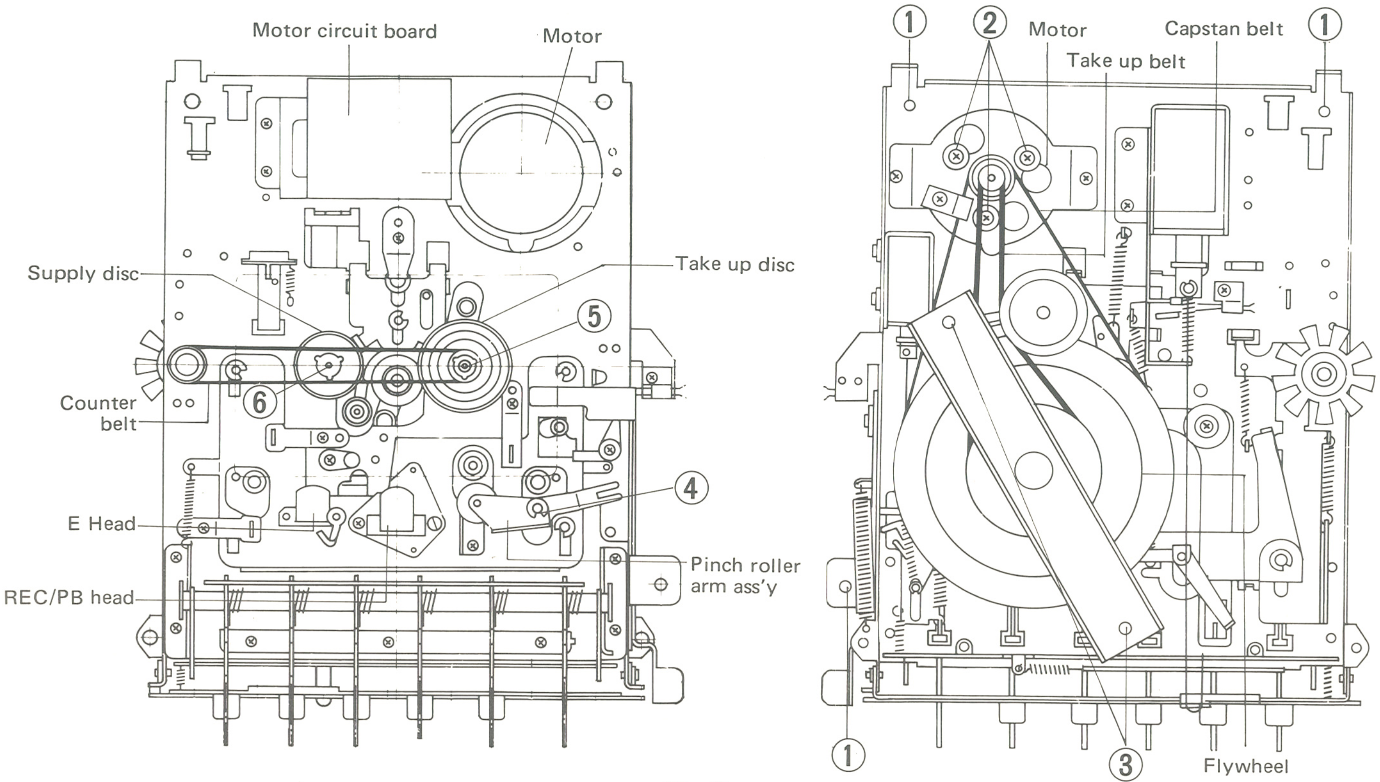

Motor circuit board
Motor
Supply disc
Take up disc
⑤
Counter belt
⑥
E Head
④
Pinch roller arm ass'y
REC/PB head
①
②
Motor
Capstan belt
①
Take up belt
①
③
Flywheel

Fig. 6

Parts Name	Procedure	Ref. No.	Remarks
Mecha-ass'y	Remove the cassette cover, head cover and bottom cover. Remove 4 screws fastening the macha-chassis.	①	
Motor	1. Remove the take up belt. 2. Remove the capstan belt. 3. Disconnect 2 wires of motor circuit board ass'y. 4. Remove 3 screws and 3 washers fastening the motor.	②	Be careful not to stain the belt. When replace the motor, replace it's circuit board as same time.
Flywheel	1. Remove the take up belt. 2. Remove the capstan belt. 3. Remove 2 screws fastening the flywheel holder. 4. Pull off the flywheel.	③	Be careful no to stain the belt. When replace the flywheel, don't forget to insert a nylon washer to it's shaft.
Pinch roller arm ass'y	1. Remove "E" ring holding the pinch roller arm ass'y. 2. Remove spring on the arm ass'y.	④	
Take up disc	1. Remove the counter belt. 2. Remove "E" ring holding the take up disc. 3. Pull off the disc from the shaft.	⑤	
Supply disc	1. Remove "E" ring holding the supply disc. 2. Pull off the disc from the shaft.	⑥	

NOTE; Don't dirty, slippery and undue run-out the capstan belt and counter belt.

Main Adjustments

Electrical Adjustment

Equipment and measuring instruments used for adjustment.

1. V.T.V.M. (measuring AC in millivolt)
2. Audio-frequency oscillator
   (range: 50–20kHz and output 0dB with impedance 600Ω)
3. Attenuator
4. Reference tapes for REC/PB
   TS-1 (QP-12, C521V) – normal tape
   TS-2 (TP-18, C401R) – chrome tape
5. Reference tapes for playback
   VTT-664 (1kHz 16mM)
   VTT-666 (400Hz 22mM)
6. Resistors
   100Ω (for measurement of the bias current)
   600Ω (for attenuator matching)

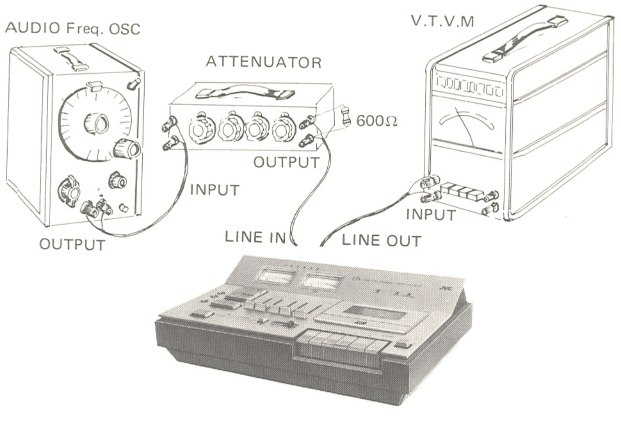


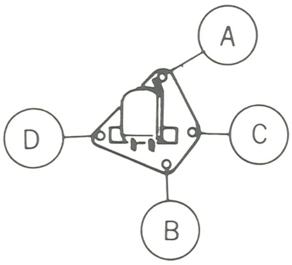
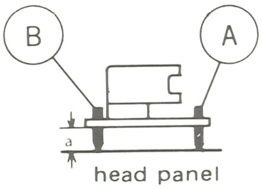
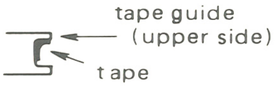
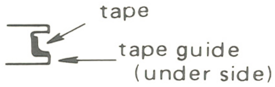
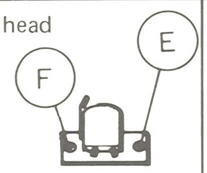
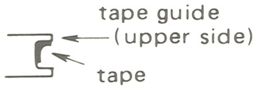
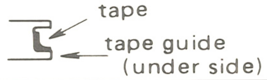
Fig. 7

When you adjust following item, we recommend to you to keep doing step No.

No. Item	Procedure	Part	Rating	Remarks
1 Level meter	1. Set the deck in the record mode. 2. Input 1kHz signals (about 10dBs) from LINE IN jacks and adjust LINE IN volume control so that LINE OUT are –8dBs. 3. Adjust semi-fixed resistors R146 and 246 in this condition it obtain zero VU meter reading.	(Main amp C. board TAA313201) VR103,203		The angle of meter deflection has been factory adjusted, but should be adjusted when parts are replaced. When adjust the level meter, don't use a headphone.
2 Peak level	1. Set as same mode at step(1) and adjust semi-fixed resistor R506 so that the "0" indicator is lighting and no lighting at –1dB from step(1) with attenuator. 2. Adjust semi-fixed resistor R508 so that the "–5" indicator is lighting at –5dB from step(1) with attenuator. 3. Adjust semi-fixed resistor R510 so that the "–10" indicator is lighting at –10dB from step(1) with attenuator and no lighting at –11dB from step(1) with attenuator. 4. Adjust semi-fixed resistor R504 so that the "+3" indicator is lighting at +3dB from step(1) and no lighting at +2dB from step(1) with attenuator. 5. Adjust semi-fixed resistor R502 so that the "+6" indicator is lighting at +5dB from step(1) with attenuator.	(Main amp C. board TAA313201) R506 R508 R510 R504 R502		
3 Playback sensitivity	1. Set equalizer switch at normal and playback reference tape VTT-664. Adjust semi-fixed resistors R115(L) and R215(R) so that level meters indicate zero VU (about 0.3V at LINE OUT). 2. Playback reference tape VTT-666 and check that the VU meter indicate CAL.	(Main amp C. board) R115,215	–3dBs zone of CAL mark	1. Adjust playback sensitivity when heads are replaced. 2. Make this adjustment after making sure level meter deflection angle is correct.

No. Item	Procedure	Part	Rating	Remarks
4 Bias current	1. Insert a 100Ω resistor into the ground side wiring of the head and connect the V.T.V.M. across the resistor, and set the BIAS SW at chrome or normal. First adjust for chrome tape, then for normal tape. 2. After the deck correct the head wires, input the standard level of 1kHz signals to use reference tape, and measure REC/PB frequency response at 10kHz. 3. Adjust semi-fixed resistors R604,704 (chrome) 605,705(normal) so that the 10kHz frequency response does become ±10dBs. Repeat the recording and playback so that 10kHz signals become correct frequency response. Level over at 10kHz compared with 1kHz — bias current less Level less at 10kHz compared with 1kHz — bias current over	(Main amp C. board) chrome R604,704 normal R605,705	chrome 55mV normal 45mV	1. Adjust bias current when heads or other parts are replaced. 2. Use the highclass V.T.V.M. for high frequency response. 3. After the bias current adjustment, check the frequency response at 10kHz signals.
5 Recording signal current	1. Set the deck in the record mode. 2. Input the 1kHz (−10dBs)signals to LINE IN jacks and adjust the recording level control so that the VU meters indicate zero VU. 3. Playback the tape, adjust the semi-fixed resistors R606,706(chrome) R607,707 (normal) so that the VU meters indicate zero VU.	(Main amp C. board) chrome R606,706 normal R607,707		1. This adjustment is necessary when heads are replaced. 2. Make this adjustment after adjusting steps(1) through (4). 3. Check the frequency response at 10kHz after this adjustment. 4. Set EQ and BIAS switches according to type of tape used.
6 ANRS circuit	1. Disconnect "D" connector of bias oscillator so that oscillator does not operate. 2. Set the deck in the record mode. 3. Input 1kHz −10dBs signals from LINE IN jacks adjust the recording volume controls so that the voltage across LINE OUT is −5dBs. 4. Turn R325 and R425 (CONT GAIN) and R338 and R438 (DC BIAS) in the direction opposite to the marking. 5. Adjust R324 and R424 so that level does not change when ANRS is turned on and off, and turn on ANRS. 6. Input 1kHz, −50dBs signals from LINE IN. Adjust R338 and R438 so that voltage across LINE OUT is −39.5dBs. 7. Input 5kHz −30dBs signals from LINE IN. Adjust R325 and R425 so that voltage across LINE OUT is −21.5dBs. 8. Repeat steps(5) through (7). 9. Turn ANRS switch is "Super" position when input 10kHz −10dBs signals from LINE IN. Check output levels are −11dBs ±2dB. 10. Connect receptable of bias oscillator disconnected in step (1). 11. Play reference tape VTT-664 and adjust R312 and R412 so that level does not change when ANRS is turned on and off.	R324,424 (REC GAIN) R338,438 (DC BIAS) R325,425 (CONT GAIN) R312,412 (PB GAIN)		

Mechanical Adjustment and Repairs

Item	Procedure	Part	Remarks
REC/PB head (Azimuth inclination)    	1. Turn the adjustment screws (Ⓐand Ⓑ) so that measure "a" is 3.5mm. 2. Insert screwsⒸin the spring and unfasten it on the head panel. 3. Fasten the screwⒹ on the head panel. 4. Fasten the screwⒸ. 5. Turn the adjustment screwⒹso that the head is horizontal. 6. Playback the test tape C-120 (front cutted cassette) and turn the adjustment screwsⒶ,Ⓑ andⒹ so that the test tape move running to no touch the tape guide tip (upper or under side). 1)When the test tape uncorrect touching at upper side of tape guide, loose the adjustment screwsⒶ and Ⓑ to move the head position at under side. 2)When the test tape uncorrect touching at under side of tape guide, fasten the adjustment screwsⒶand Ⓑto move the head position at upper side. 7. Insert the cord plug into the LINE OUT jack (or REC/PB), and connect the other end of the cord to a V.T.V.M. (vacuum tube voltmeter). 8. Play the azimuth adjustment test tape (e.g. JVC's VTT-653, 10kHz). 9. Turn the azimuth screwⒹ so that the output will become maximum. 10. If output of left and right channels unbalance level, turn the adjustment screwsⒶ andⒷ for correct the head position. 1) If output of right channel less level loose the screwⒶ and fasten the screwⒷ. 2) If output of left channel less level, fasten the screwⒶ and loose the screwⒷ. 11. After this adjustment, the screwⒷ should be locked with a bond.	screws ⒶⒷⒹ	If either of the record/playback head and the erase head shown low performance because of wear, broken wire of excessive magnetization, it should be replaced. If necessary, adjust playback sensitivity, REC bias current, and bias trap. (ScrewⒶ andⒷ are head inclination adjustment. ScrewⒹ is head azimuth adjustment. ScrewⒸis fixed.) If checking is difficult, cut front upper side (near E head, REC/PB head and capstan) of the cassette C-120 by a cutter knife, etc, then easy check it.
Erasing head (height)   	Playback the test tape C-120 (front cutted cassette), and turn the adjustment screwⒻ so that the test tape move running to no touch the tape guide tip (up or under side). 1)When the test tape uncorrect touching, at under side of tape guide, loose the screwⒻ. 2)When the test tape uncorrect touching, at under side of tape guide, fasten screwⒻ.		After replacement, adjust the head height position.

Item	Procedure	Part	Rating	Reamrks
Motor speed	Playback reference tape (3000Hz), and adjust the semi-fixed resistor on the circuit board of the motor so that it's speed in 3000Hz±2% (2940~3060Hz) · Remove the front panel and adjust semi-fixed resistor in the hole of top cabinet (mould) by the screwdriver. · If don't remove the front panel, adjust semi-fixed resistor in the hole of mecha-chassis (near the bracket of solenoid for automatic stop.)		3000Hz±2% (2940~ 3060Hz)	
Take-up torque	Measure by the torque measure cassette at the playback mode, or by the torque gaze tool.		40~70 gr-cm	(If not) 1. Clean the idler belt, rubber rim of idler, and rubber rim of the right reed disc. 2. Replace the idler arm of tape-up, and spring.
Fast forward torque	Measure as same way at FF mode.		70gr-cm or more	(If not) 1. Clean the capstan belt, rubber rim of the idler, motor pulley, rubber rim of the right reel disc and rim of the flywheel. 2. Replace the belt, idler and reel disc ass'y etc.
Rewinding torque	Measure as same way at REW mode.		70gr-cm or more	(If not) 1. Clean the capstan belt, idler, motor pulley rim of the flywheel, rubber rim of the rewinding idler, and rubber rim of the left reel disc. 2. Replace the reel disc.
Auto-stop mechanism	Loosen 2 screws fastening the solenoid and move it position for adjustment.			Check if the locking and sliding parts of the operation button cam are well coated with molybdenum.
Timer recording mechanism	Loosen 2 screws fastening the solenoid for pause locking plate and adjust the solenoid position.			
Door brake	Loosen the screw which retains the spring bracket and vary the angle at which the bracket is fixed.			1. Apply a small quantity of silicon grease to the inside surface of the brake pipe. (SHIN ETSU KAGAKU KS-64 or equivalent) 2. Replace brake pipe or rubber O-ring.

Trouble Shooting Guide

[ELECTRICAL CIRCUIT]

1. Playback tone quality is poor.

1. Check the record/playback head for dust.
2. Check the record/playback head for wear.
   If worn excessively, the loss of treble response will result.
3. Check wiring for a short-circuit.
   Check each transistor for condition.

2. Recording tone quality is poor.

The playback tone quality of a recorded tape such as the audition tape is good, but the recording by this unit produces poor tone quality. In this case, the unit should be checked in the following manner.

1. By monitoring a music while recording, check the tone quality.
2. If found poor, check the wiring of the recording system for a broken wire and short-circuit.
3. If no irregularity is found, check the recording bias current. Also check the oscillation circuit.

3. For other failures, check the unit in the same manner as other amplifiers.

[MECHANISM SECTION] (wow and flutter)

If wow and flutter increase, check the following points.
If there is defect in revolving parts, the wow and flutter generated will increase in proportion to the number of revolutions.
Play a 3000Hz test tape, and defective part can be detected from the sound.

Section	Trouble	Repair
Capstan and flywheel	Capstan shaft has excessive run-out. Flywheel turns heavily. (shaft seisure, thrust play, etc.)	Replace flywheel. Clean the capstan shaft and the groove in the flywheel. Apply oil to the metal position. Replace the capstan assembly.
Pinch roller	Rough rotation (Deformation scratches, or dust). The angular position of the pinch roller is not correct. The pinch roller pressure is not correct.	Replace pinch roller, or pinch roller spring. Clean the pinch roller or apply oil to the rotary shaft. Adjust the pinch roller so that it is parallel with the capstan shaft. Adjust the pinch roller spring.
Belt	Belt has undue run-out. Belt is dirty or slippery.	Clean the belt or remove the distortion. Replace the belt.
Back tension	Back tension is irregular, or back tension is too strong.	Replace supply disc, or felt. Replace back tension spring (under supply disc), or apply silicon grease.
Motor	Motor shaft has undue run-out. Motor pulley is oily and dusty.	Replace motor. Clean motor pulley.
Take-up idler arm	Pulley has deflection. Pulley is stuck.	Replace take-up idler arm.

Maintenance

To get long, trouble-free service, maintenance is important. Do not forget cleaning and demagnetizing.

Cleaning

After long use, the heads and tape part — capstan, pinch roller, etc. — will become dirty with dust or magnetic particles. Dirty heads cause imperfect erasing or high frequency drop-off. A dirty capstan and pinch roller will cause unstable tape speed, leading to increased wow and flutter.
Always keep them clean by following the procedure below.

1. Heads

1) Press the EJECT button with the POWER switch OFF to open the cassette door.
2) Remove the headcover upward.

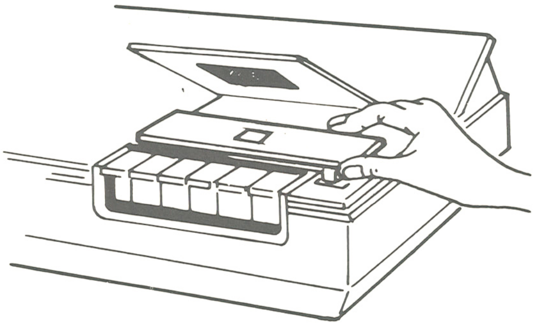


Fig. 8

3) Press the PLAY button to move the heads out.
4) Use the head cleaning stick provided to wipe the surface where the tape comes into contact with the head.
(It is effective to moisten the cotton with alcohol.)

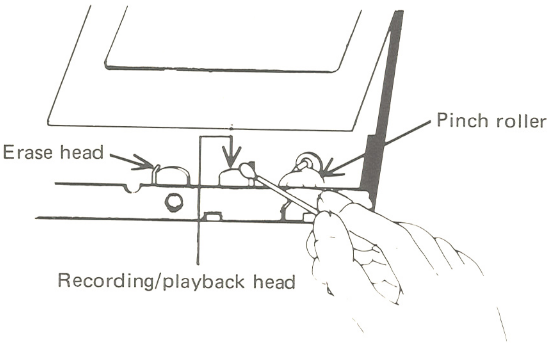


Fig. 9

2. Pinch roller and capstan

1) Press the EJECT button with the POWER switch ON to open the cassette door.
2) Press the PLAY button, and the pinch roller will move out and rotate.
3) Apply a soft cloth (soaked in alcohol, it will be more effective) to the rotating pinch roller and capstan.
Be careful not to let the cloth get caught!
* Do not use any cleaner besides alcohol or a specifically prepared tape head cleaning solution.

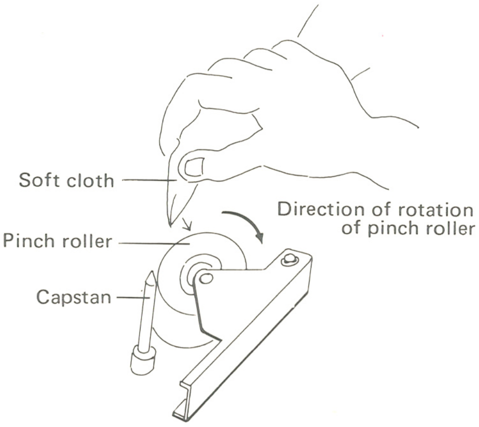


Fig. 10

3. Cabinet

When the cabinet becomes dirty, wipe it with a soft cloth soaked with a neutral cleaning solution of a polishing cloth.
* Do not use thinner or benzine.

Demagnetizing

The heads are made from a material resistant to magnetization, but after long use they may become magnetized. A magnet brought into their vicinity can magnetize the heads, causing excess noise. If noise seems to have increased, demagnetize the heads with a head demagnetizer through the following procedure.

1. Turn the POWER switch OFF.
2. Wrap the tip of the demagnetizer with vinyl tape or soft cloth so as not to damage the head surface. Switch on the demagnetizer and bring it close to the head.
3. Move the tip of the demagnetizer slowly first to the left and right, then up and down in front of the head.
Gradually move it away from the head and switch it off at a distance of more than 30cm. (12″)
4. The erase head need not be demagnetized. The capstan shaft and tape guide should be demagnetized in the same way as the record/playback head.
* Do not bring a magnetized metallic object (a screwdriver, for example) near the head as this will increase noise.

Block Diagram

Recording system

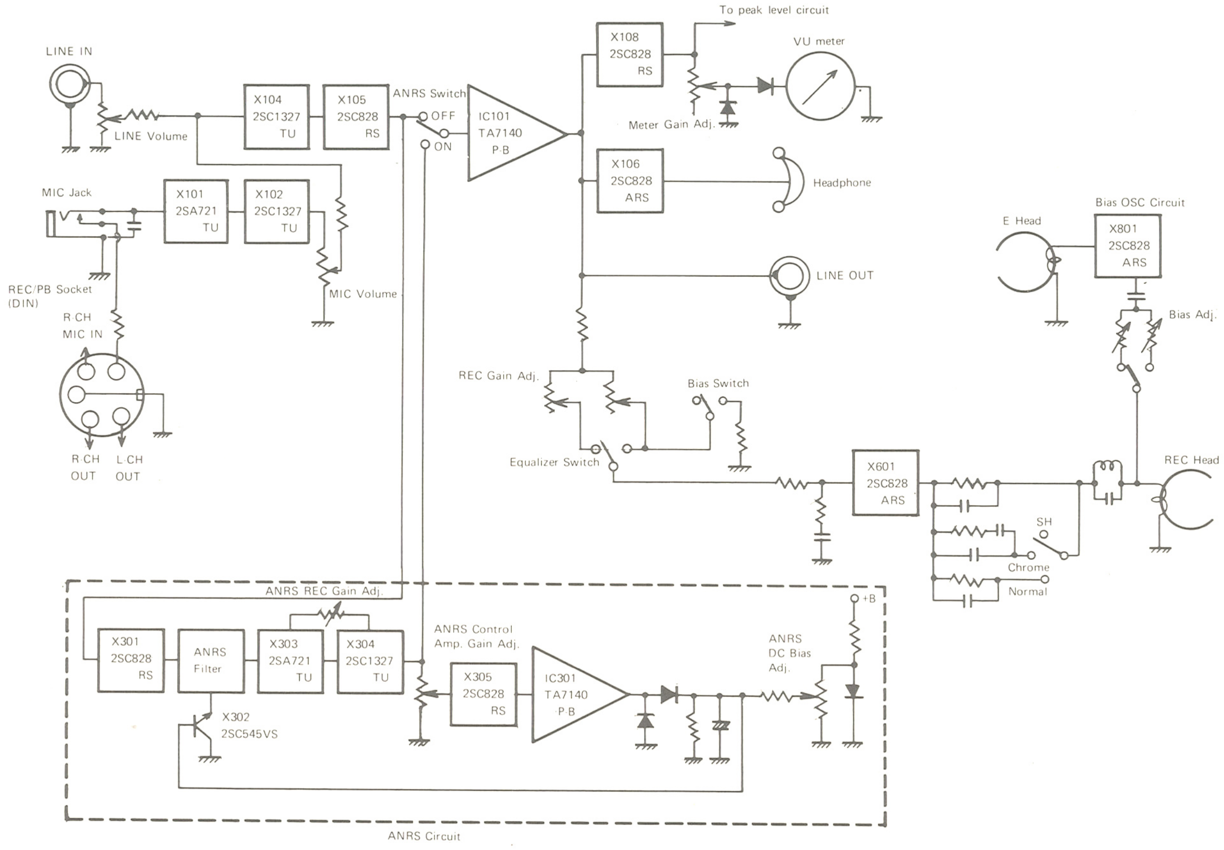

To peak level circuit
LINE IN
X108
2SC828
RS
VU meter
X104
2SC1327
TU
X105
2SC828
RS
ANRS Switch
OFF
ON
IC101
TA7140
P.B
Meter Gain Adj.
LINE Volume
X106
2SC828
ARS
Headphone
MIC Jack
X101
2SA721
TU
X102
2SC1327
TU
Bias OSC Circuit
E Head
X801
2SC828
ARS
LINE OUT
REC/PB Socket
(DIN)
MIC Volume
R.CH
MIC IN
Bias Adj.
REC Gain Adj.
Bias Switch
R.CH
OUT
L.CH
OUT
Equalizer Switch
X601
2SC828
ARS
REC Head
SH
Chrome
Normal
ANRS REC Gain Adj.
+B
ANRS Control
Amp. Gain Adj.
X301
2SC828
RS
ANRS
Filter
X303
2SA721
TU
X304
2SC1327
TU
ANRS
DC Bias
Adj.
X305
2SC828
RS
IC301
TA7140
P.B
X302
2SC545VS
ANRS Circuit

Fig. 11

Playback system

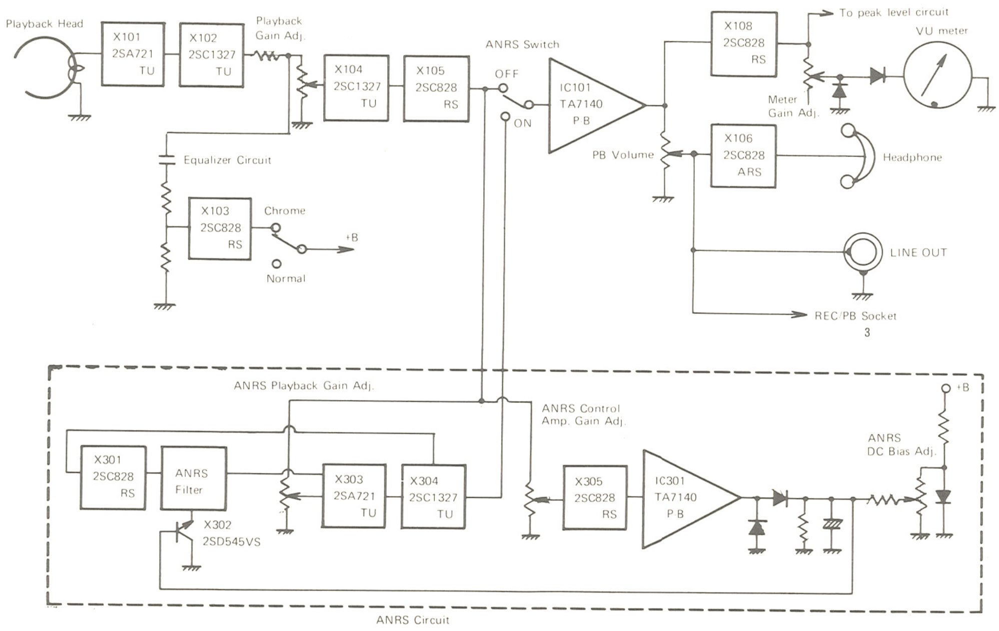
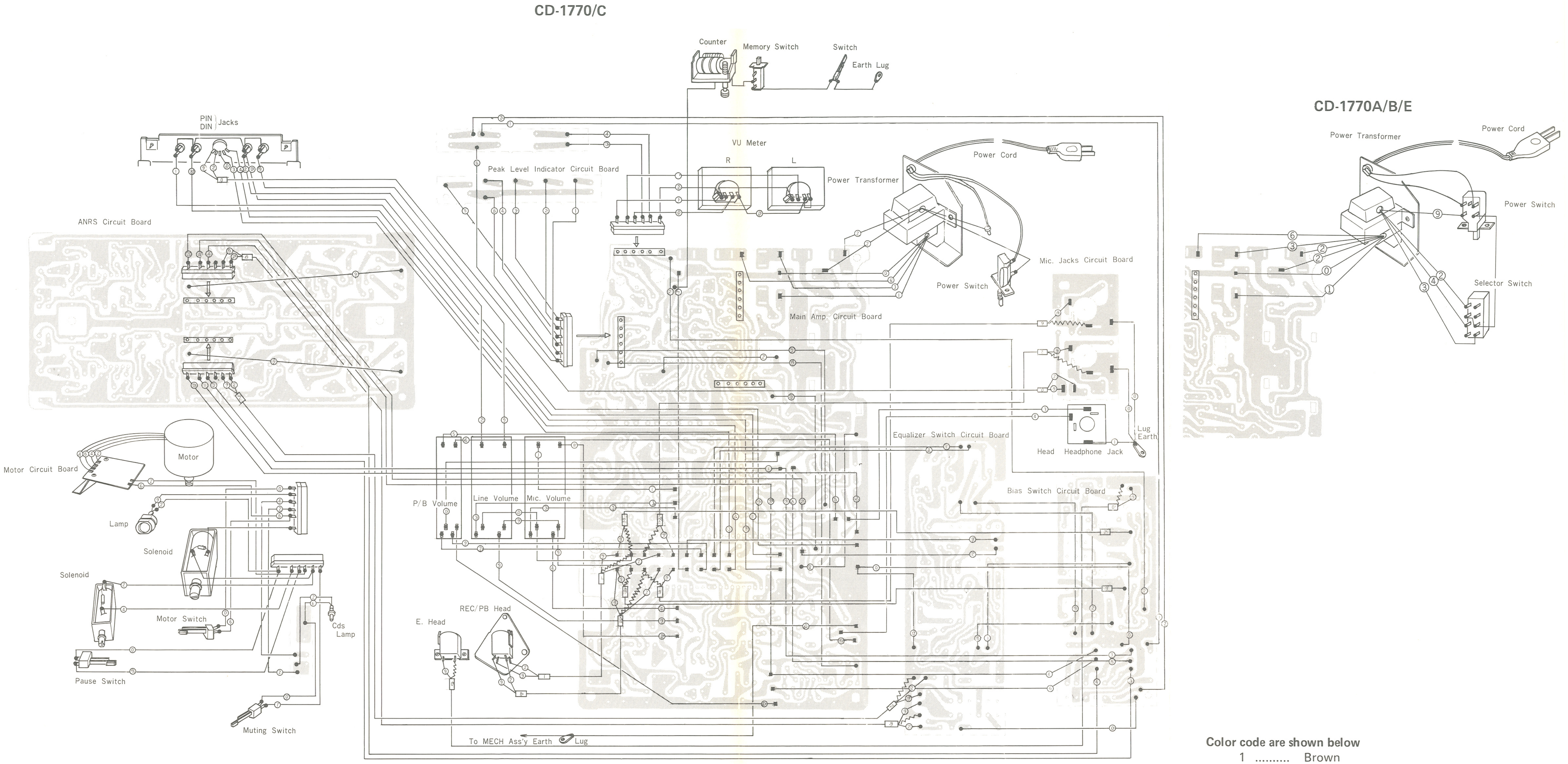

Playback Head
X101
2SA721
TU
X102
2SC1327
TU
Playback
Gain Adj.
X108
2SC828
RS
To peak level circuit
VU meter
ANRS Switch
X104
2SC1327
TU
X105
2SC828
RS
OFF
ON
IC101
TA7140
P.B
Meter
Gain Adj.
PB Volume
X106
2SC828
ARS
Headphone
Equalizer Circuit
X103
2SC828
RS
Chrome
+B
Normal
LINE OUT
REC/PB Socket
3
ANRS Playback Gain Adj.
+B
ANRS Control
Amp. Gain Adj.
ANRS
DC Bias Adj.
X301
2SC828
RS
ANRS
Filter
X303
2SA721
TU
X304
2SC1327
TU
X305
2SC828
RS
IC301
TA7140
P.B
X302
2SD545VS
ANRS Circuit

Fig. 12

Wiring


CD-1770/C

CD-1770A/B/E

Counter
Memory Switch
Switch
Earth Lug
PIN | Jacks
DIN |
VU Meter
R
L
Power Cord
Power Transformer
Peak Level Indicator Circuit Board
ANRS Circuit Board
Mic. Jacks Circuit Board
Power Switch
Main Amp. Circuit Board
Lug
Earth
Head
Headphone Jack
Equalizer Switch Circuit Board
Motor
Motor Circuit Board
P/B Volume
Line Volume
Mic. Volume
Bias Switch Circuit Board
Lamp
Solenoid
Solenoid
Motor Switch
Cds
Lamp
E. Head
REC/PB Head
Pause Switch
Muting Switch
To MECH Ass'y Earth
Lug
Power Transformer
Power Cord
Power Switch
Selector Switch

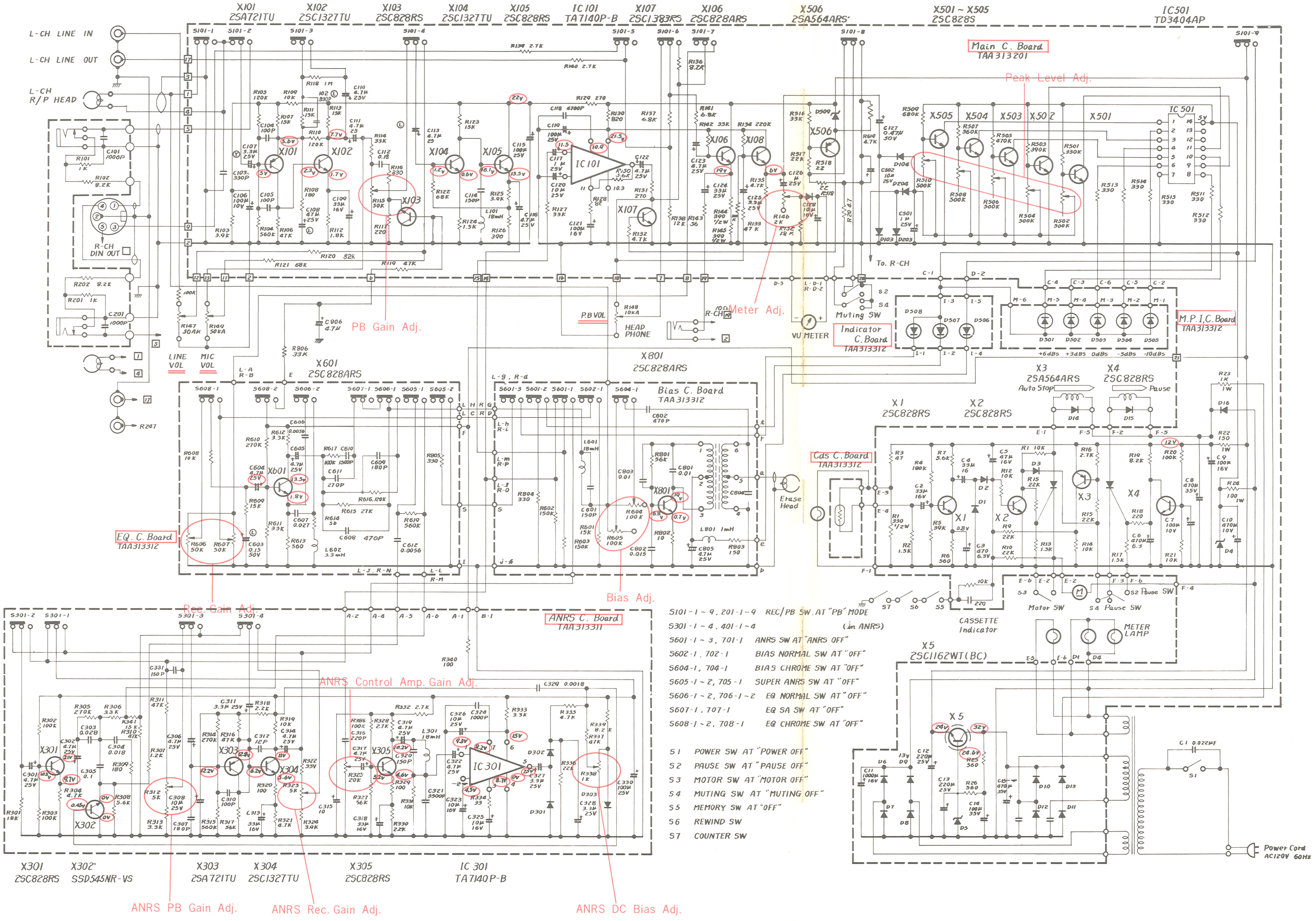
Color code are shown below

1	....	Brown
2	....	Red
3	....	Orange
4	....	Yellow
5	....	Green
6	....	Blue
7	....	Violet
8	....	Grey
9	....	White
0	....	Black

Fig. 13

Standard Schematic Diagram

CD-1770/C


X101 2SA721TU
X102 2SC1327TU
X103 2SC828RS
X104 2SC1327TU
X105 2SC828RS
IC101 TA7140P-B
X107 2SC1383RS
X106 2SC828ARS
X506 2SA564ARS
X501 ~ X505 2SC828S
IC501 TD3404AP
L-CH LINE IN
L-CH LINE OUT
L-CH R/P HEAD
R-CH DIN OUT
Main C. Board TAA313201
Peak Level Adj.
PB Gain Adj.
Meter Adj.
P.B VOL
HEAD PHONE
VU METER
Muting SW
Indicator C. Board TAA313312
M.P.I.C. Board TAA313312
To. R-CH
LINE VOL
MIC VOL
X601 2SC828ARS
X801 2SC828ARS
Bias C. Board TAA313312
EQ. C. Board TAA313312
Cas C. Board TAA313312
Erase Head
X3 2SA564ARS
X4 2SC828RS
Auto Stop
Pause
X1 2SC828RS
X2 2SC828RS
Bias Adj.
Rec. Gain Adj.
ANRS C. Board TAA313311
ANRS Control Amp. Gain Adj.
Motor SW
Pause SW
CASSETTE Indicator
METER LAMP
X5 2SC1162WT(BC)
Power Cord AC120V 60Hz
X301 2SC828RS
X302 SSD545NR-VS
X303 2SA721TU
X304 2SC1327TU
X305 2SC828RS
IC301 TA7140P-B
ANRS PB Gain Adj.
ANRS Rec. Gain Adj.
ANRS DC Bias Adj.

S101-1 ~ 9, 201-1 ~ 9 REC/PB SW. AT "PB" MODE
S301-1 ~ 4, 401-1 ~ 4 (in ANRS)
S601-1 ~ 3, 701-1 ANRS SW AT "ANRS OFF"
S602-1, 702-1 BIAS NORMAL SW AT "OFF"
S604-1, 704-1 BIAS CHROME SW AT "OFF"
S605-1 ~ 2, 705-1 SUPER ANRS SW AT "OFF"
S606-1 ~ 2, 706-1 ~ 2 EQ NORMAL SW AT "OFF"
S607-1, 707-1 EQ SA SW AT "OFF"
S608-1 ~ 2, 708-1 EQ CHROME SW AT "OFF"

S1 POWER SW AT "POWER OFF"
S2 PAUSE SW AT "PAUSE OFF"
S3 MOTOR SW AT "MOTOR OFF"
S4 MUTING SW AT "MUTING OFF"
S5 MEMORY SW AT "OFF"
S6 REWIND SW
S7 COUNTER SW

CD-1770A/B/E

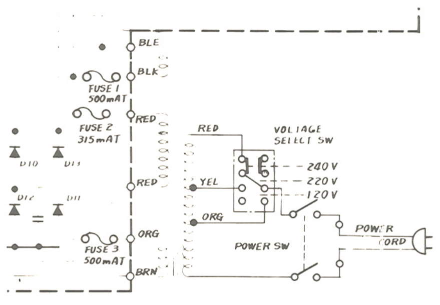

FUSE 1 500mA T
FUSE 2 315mA T
FUSE 3 500mA T
VOLTAGE SELECT SW
240V
220V
120V
POWER SW
POWER CORD

Fig. 14

VARIABLE RESISTORS

R115,215	PLAYBACK GAIN ADJ.	50kΩ
R148,248	PLAYBACK VOLUME CONTROL	10kΩ (A)
R146,246	METER GAIN ADJ.	2kΩ
R147,247	LINE REC VOLUME CONTROL	100kΩ (A)
R149,249	MIC/DIN REC VOLUME CONTROL	50kΩ
R604,704	BIAS CURRENT ADJ. (CHROME)	100kΩ
R605,705	〃 (NORMAL)	100kΩ
R606,706	REC GAIN ADJ. (NORMAL)	50kΩ
R607,707	〃 (CHROME)	50kΩ
R312,412	ANRS PLAYBACK GAIN ADJ.	5kΩ
R323,413	ANRS REC GAIN ADJ.	5kΩ
R325,425	ANRS CONTROL AMP GAIN ADJ.	20kΩ
R338,438	ANRS DC BIAS ADJ.	1kΩ
R502,504, 506,508, 510	PEAK LEVEL ADJ.	500kΩ

TRANSISTORS

X101,201	2SA721TU	MAIN AMP CIRCUIT
X102,202	2SC1327TU	
X103,203	2SC828RS	
X104,204	2SC1327TU	
X105,205	2SC828RS	
X106,206	2SC828ARS	
X107,207	2SC828RS	
X108,208	2SC828RS	
X501~505	2SC828S	PEAK LEVEL CIRCUIT
X506	2SA564ARS	
X601,701	2SC828ARS	EQUALIZER SW CIRCUIT
X801	2SC828ARS	BIAS SW CIRCUIT
X301,401	2SC828RS	ANRS CIRCUIT
X302,402	2SD545VS	
X303,403	2SA721TU	
X304,404	2SC1327TU	
X305,405	2SC828RS	
X1	2SC828RS	POWER SUPPLY CIRCUIT
X2	2SC828RS	
X3	2SA564ARS	
X4	2SC828RS	
X5	2SC1162WT(BC)	

ICs

IC101,201	TA7140P-B	MAIN AMP CIRCUIT
IC501	TD3404AP	PEAK LEVEL CIRCUIT
IC301,401	TA7140P-B	ANRS CIRCUIT

DIODES

D501~505	TLR102	LED (Light Emitted Diode)	..... PEAK LEVEL INDICATOR
D506~508	TLR105	LED	..... REC, ANRS, Super ANRS INDICATOR
D301,302, 401,402	OA90	GE. DIODE	..... ANRS CIRCUIT
D303,403	VD1212	SI. DIODE VARISTOR	..... ANRS CIRCUIT
D101~104, 201~204	OA90	GE. DIODE	..... PEAK LEVEL CIRCUIT
D1,2	OA90	GE. DIODE	..... POWER SUPPLY CIRCUIT
D3	OA91	GE. DIODE	..... POWER SUPPLY CIRCUIT
D4	1N4733T5	ZENER DIODE	..... POWER SUPPLY CIRCUIT
D5	RD24E(1)	ZENER DIODE	..... POWER SUPPLY CIRCUIT
D6~13,16	T30155-001 or V06-B	GE. DIODE	..... POWER SUPPLY CIRCUIT
D509	RD4.3EC	ZENER DIODE	..... MAIN AMP CIRCUIT

SWITCHES

S101-1~9, 201-1~9, 301-1~4, 401-1~4	REC/PB SWITCH AT "PB" MODE
S601-1~3, 701-1	ANRS SWITCH AT "ANRS OFF"
S602-1,702-1	BIAS NORMAL SWITCH AT "OFF"
S604-1,704-1	BIAS CHROME SWITCH AT "OFF"
S605-1~2, 705-1	SUPER ANRS SWITCH AT "OFF"
S606-1~2, 706-1~2	EQ CHROME SWITCH AT "OFF"
S607-1,707-1	EQ SF SWITCH AT "OFF"
S608-1~2, 708-1	EQ CHROME SWITCH AT "OFF"
S1	POWER SW AT "POWER OFF"
S2	PAUSE SW AT "PAUSE OFF"
S3	MOTOR SW AT "MOTOR OFF"
S4	MUTING SW AT "MUTING OFF"
S5	MEMORY SW AT "OFF"
S6	REWIND SW
S7	COUNTER SW

Transistor IC TA140P-BC IC TD3404AP

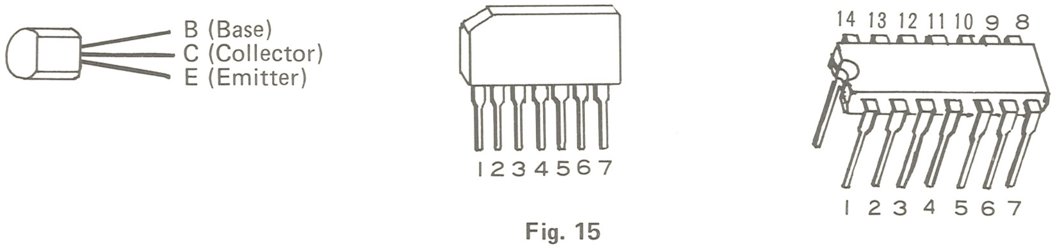


Fig. 15

Circuit Board Parts

Main Amp Circuit Board

Red print is shown the voltage (V) of playback mode.
(   ) voltage; at recording mode.
When you measure the voltage by tester, we recommend you to use 20kΩ/V or more impedance tester.

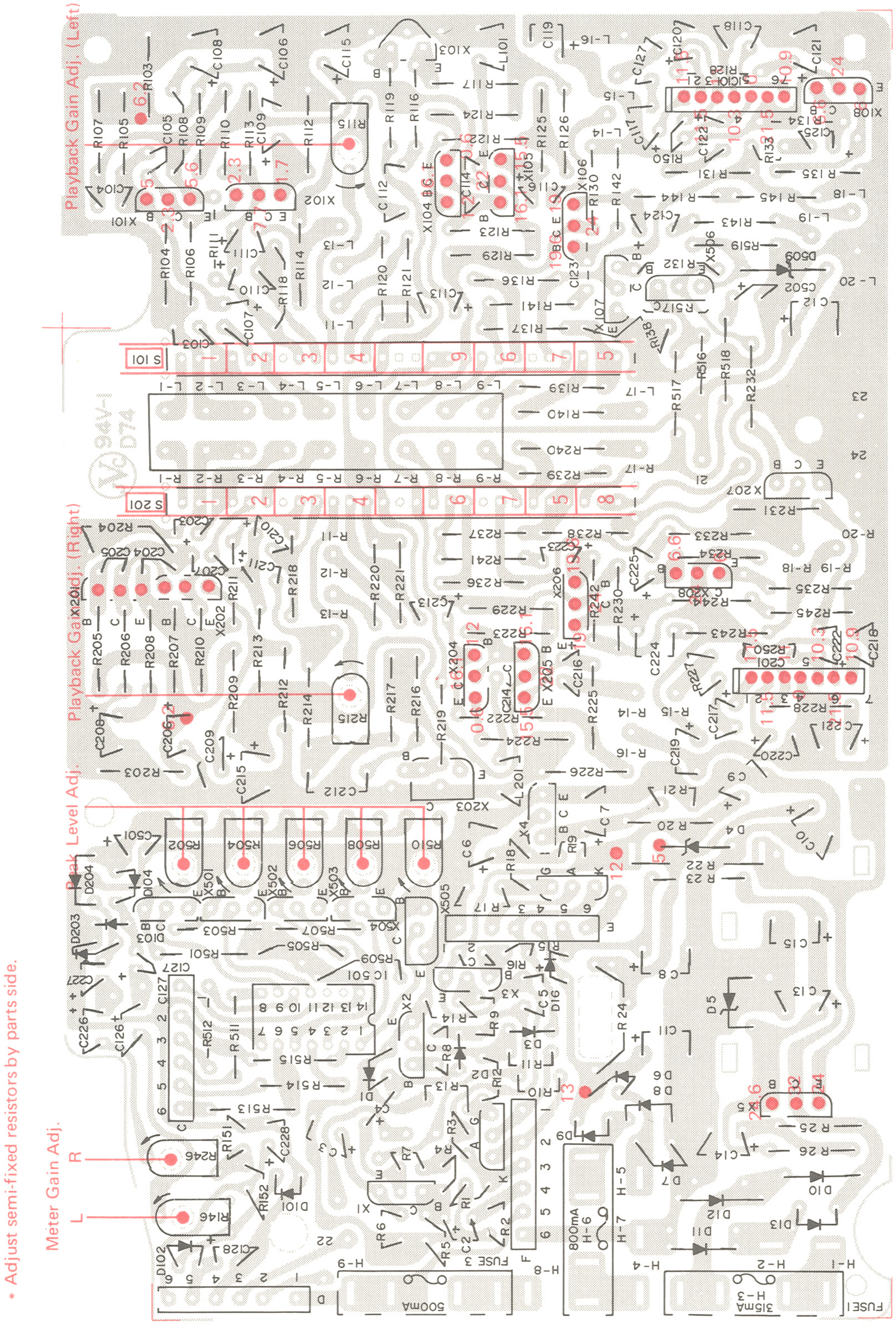

Playback Gain Adj. (Left)
Playback Gain Adj. (Right)
Peak Level Adj.
Meter Gain Adj.
R
L
* Adjust semi-fixed resistors by parts side.
S 101
S 201
FUSE 1
315mA
500mA
800mA

Fig. 16

Main Amp Circuit Board Parts List

Ref. No.	Part No.	Part Name	Remarks	Q'ty
	* TAA313201-01	C. Board		1
(Peak & Meter Circuit)				
R511,512,513,514, 515	QRD142K-331	C. Resistor	330Ω ¼W	5
R501	〃 -334	〃	330kΩ 〃	1
R503	〃 -394	〃	390kΩ 〃	1
R505	〃 -474	〃	470kΩ 〃	1
R507	〃 -564	〃	560kΩ 〃	1
R509	〃 -684	〃	680kΩ 〃	1
C126,127,226,227, 501	QEW41EA-105	E. Capacitor	1μF 25V	5
C128,228	QEW41CA-106	〃	10μF 16V	2
R502,504,506,508, 510	QVP8A0B-055	V. Resistor	500kΩ	5
R146,246	〃 -013	〃	1kΩ	2
D103,203,104,204, 101,201,102,202	OA90	Ge. Diode		8
X501,502,503,504, 505	2SC828S	Si. Transistor		5
IC501	TD3404AP	IC		1
(Power Supply Circuit)				
R18	QRD143K-221	C. Resistor	220Ω ¼W	1
R25,26	QRD146K-561	〃	560Ω 〃	2
R2,13,17	QRD143K-152	〃	1.5kΩ 〃	3
R16	QRD143K-272	〃	2.7kΩ 〃	1
R7	〃 -562	〃	5.6kΩ 〃	1
R19	〃 -822	〃	8.2kΩ 〃	1
R8,11,12,14,21	〃 -103	〃	10kΩ 〃	6
R9,10,15	〃 -223	〃	22kΩ 〃	3
R5	〃 -393	〃	39kΩ 〃	1
R20	QRD142K-104	〃	100kΩ 〃	1
R4	QRD143K-184	〃	180kΩ 〃	1
R3	QRD146K-470	〃	47Ω 〃	1
R1	QRD121K-391	〃	390Ω 〃	1
R24	QRG016J-101	O.M.F. Resistor	100Ω 1W	1
R23	〃 -102	〃	1kΩ 〃	1
R22	QRG026J-151	〃	150Ω 〃	1
	TAZ000331-02	Fuse Holder	CD-1770A/E	6
	QMF51AZ-R50	Fuse	〃	2
	〃 -R315	〃	〃	1
C3,6	QEW40JA-477	E. Capacitor	470μF 6.3V	2
C7	QEW41AA-107	〃	100μF 10V	1
C10	〃 -477	〃	470μF 〃	1
C2,4	QEW41CA-336	〃	33μF 16V	2
C5	〃 -476	〃	47μF 〃	2
C9	〃 -107	〃	100μF 〃	1
C11	〃 -108	〃	1000μF 〃	1
C12,13	QEW41EA-227	〃	220μF 25V	2
C14	QEW41VA-107	〃	100μF 35V	1
C8,15	〃 -477	〃	470μF 〃	2
R6	QRD143K-561	C. Resistor	560Ω ¼W	1
X3	2SA564ARS	Si. Transistor		1
X1,2,4	2SC828RS	〃		3
X5	2SC1162WT(BC)	〃		1
	2SF656	SCR		2
D5	RD24E-(1)	Zener Diode		1
D4	1N4733T5	〃		1

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
D1,2	OA90	Ge. Diode		2
D3	OA91	〃		1
D6,7,8,9,10,11,12 13,16	T30155-001 or V06-B	Si. Diode		9
	LPSP3006ZS	Screw		1
	TAR272448-01	Heat Sink		1
(Main Amp Circuit)				
R133	QRD143K-472	C. Resistor	4.7kΩ ¼W	1
R518	QRD142K-220	〃	22Ω 〃	1
R143,243	〃 -560	〃	56Ω 〃	2
R108,208	〃 -181	〃	180Ω 〃	2
R117,217	〃 -221	〃	220Ω 〃	2
R127,227,516	QRD143K-333	〃	33kΩ 〃	3
R128,228	QRD142K-820	〃	82Ω 〃	2
R129,229	QRD146K-271	〃	270Ω 〃	2
R126,226	QRD142K-331	〃	330Ω 〃	2
R116,216	〃 -391	〃	390Ω 〃	2
R130,230	QRD146K-821	〃	820Ω 〃	2
R131,231	QRD142K-221	〃	220Ω 〃	2
R137,237	〃 -222	〃	2.2kΩ 〃	2
R124,141,224,241	〃 -152	〃	1.5kΩ 〃	4
R112,212	〃 -182	〃	1.8kΩ 〃	2
R139,140,239,240	〃 -272	〃	2.7kΩ 〃	4
R103,125,203,225	〃 -392	〃	3.9kΩ 〃	4
R519,132,135,232, 235,233	〃 -472	〃	4.7kΩ 〃	6
R136,236	〃 -822	〃	8.2kΩ 〃	2
R138,238,137,237	〃 -123	〃	6.8kΩ 〃	4
R109,209,141,241	〃 -103	〃	10kΩ 〃	4
R107,113,123,207, 213,223,111,211	〃 -153	〃	15kΩ 〃	8
R517	〃 -223	〃	22kΩ 〃	1
R114,142,214,242	〃 -333	〃	33kΩ 〃	4
R106,119,206,219	〃 -473	〃	47kΩ 〃	4
R121,221,122,222	〃 -683	〃	68kΩ 〃	4
R105,110,205,210	QRZ0019-124	〃	120kΩ 〃	4
R134,234	QRD142K-224	〃	220kΩ 〃	2
R120,220	〃 -823	〃	82kΩ 〃	2
R104,204	QRZ0019-564	〃	560kΩ 〃	2
R118,218	QRD142K-105	〃	1MΩ 〃	2
R144,145,244,245	QRD122K-391	〃	390Ω ½W	4
C106,206	QEW41AA-107	E. Capacitor	100μF 10V	2
C109,209	QEW41CA-336	〃	33μF 16V	2
C121,221	〃 -107	〃	100μF 〃	2
C111,116,122,123, 125,211,216,222, 223,225	QEW41EA-475	〃	4.7μF 25V	10
C117,217	〃 -105	〃	1μF 〃	2
C120,220,502	〃 -106	〃	10μF 〃	3
C124,224	〃 -336	〃	33μF 〃	2
C115,119,215,219	〃 -107	〃	100μF 〃	4
C110,113,210,213	QEB41EM-475	L.L.E. Capacitor	4.7μF 〃	4
C108,208	〃 -476	〃	47μF 〃	2
C107,207	QEE41EM-335	T.S.E. Capacitor	3.3μF 〃	2
C112,212	QFM41HK-184	Mylar Capacitor	0.18μF 50V	2
C118,218	〃 -472	〃	0.0047μF 〃	2
C114,214	QCS11HJ-151	Fixed C. Capacitor	150PF	2
C104,105,204,205	QCS11HK-101	〃	100PF	4

Ref. No.	Part No.	Part Name	Remarks	Q'ty
C103,203	QCS11HK-331	Fixed C. Capacitor	330PF	2
L101,201	TAC000324-01	Inductor	18mH	2
R115,215	QVP8A0B-054	V. Resistor	50kΩ	2
D509	RD4.3EC	Zener Diode		1
X506	2SA564ARS	Si. Transistor		1
X101,210	2SA721TU	〃		2
X102,104,202,204	2SC1327TU	〃		4
X106,206	2SC828ARS	〃		2
X103,105,108,203, 205,208	2SC828RS	〃		6
X107,207	2SC1383RS	Si. Transistor		2
IC101,201	TA7140P-B	IC		2
	QSS9201-001	Slide Switch		2
	TFB313515-01	Bracket		1
	TAD313514-01	Sheet		1
	SPSP2006Z	Screw	SW + Bke	2
	QMC0627-001	Plug Ass'y		4
	QMC0657-001	Socket Ass'y		6
	A43596-001	Tab		2
	E47327-002	〃		43
	E40130-001	〃		6

ANRS Circuit Board

Red print is shown the voltage (V) of playback mode.
( ) voltage; at recording mode.
When you measure the voltage by tester, we recommend you to use 20kΩ/V or more impedance tester.

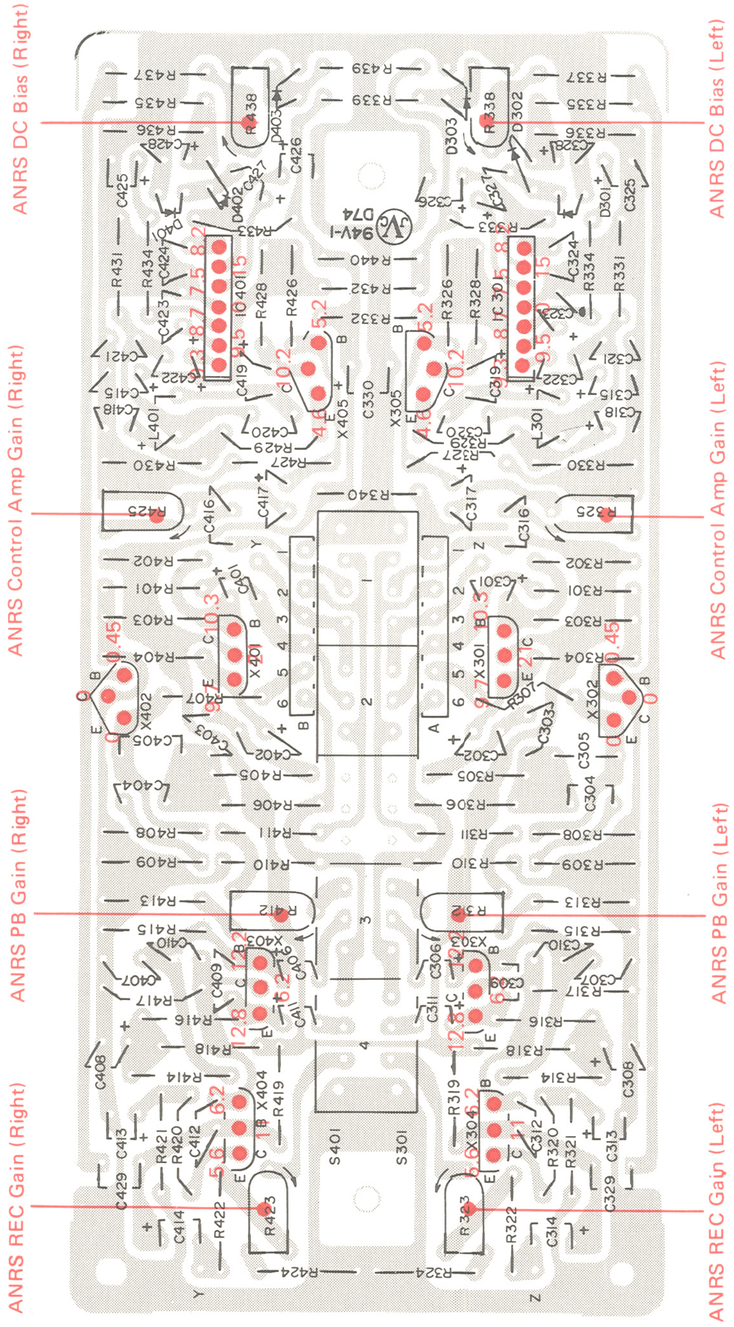

ANRS DC Bias (Right)
ANRS Control Amp Gain (Right)
ANRS PB Gain (Right)
ANRS REC Gain (Right)
ANRS DC Bias (Left)
ANRS Control Amp Gain (Left)
ANRS PB Gain (Left)
ANRS REC Gain (Left)
IC401
IC301
X401
X402
X403
X404
X405
X301
X302
X303
X304
X305
S401
S301
94V-1
D74

Fig. 17

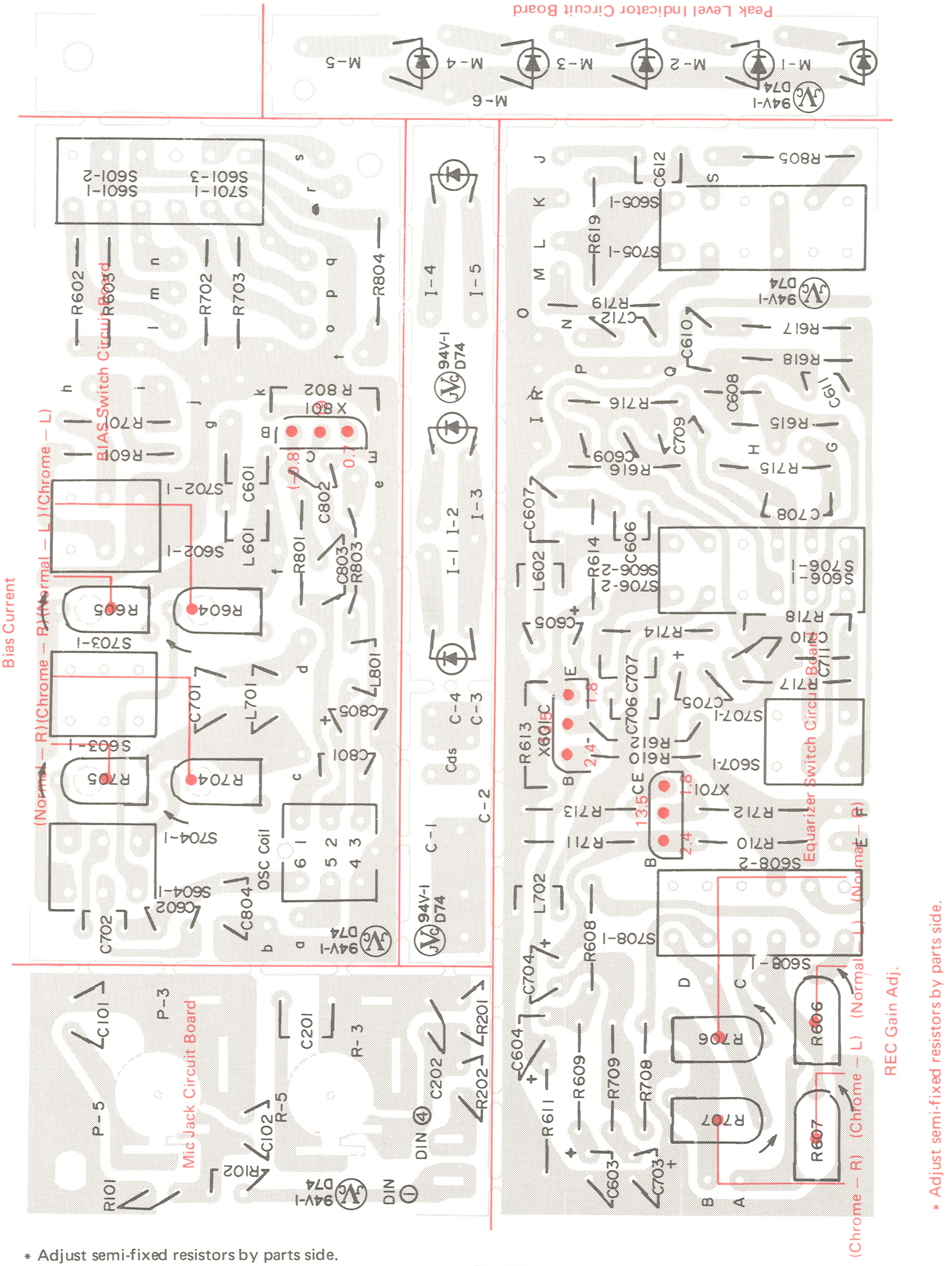
ANRS Circuit Board Parts List

Ref. No.	Part No.	Part Name	Remarks	Q'ty
	*TAA313311-01	C. Board		1
R440	QRD142K-0R0	C. Resistor	0Ω	1
R307,407	〃 -122	〃	1.2kΩ ¼W	2
R334,434	〃 -330	〃	33Ω 〃	2
R320,329,340,420, 429	〃 -101	〃	100Ω 〃	5

Ref. No.	Part No.	Part Name	Remarks	Q'ty
R309,409	QRD142K-181	C. Resistor	180Ω ¼W	2
R330,430	〃 -222	〃	2.2kΩ 〃	2
R328,332,428,432	〃 -272	〃	2.7kΩ 〃	4
R313,333,413,433, 306,406	〃 -332	〃	3.3kΩ 〃	6
R324,424	〃 -392	〃	3.9kΩ 〃	2
R304,321,404,421	〃 -472	〃	4.7kΩ 〃	4
R308,408	〃 -562	〃	5.6kΩ 〃	2
R339,439	〃 -822	〃	8.2kΩ 〃	2
R319,331,419,431	〃 -103	〃	10kΩ 〃	4
	QRD143K-153	〃	15kΩ 〃	2
R301,401	QRD142K-183	〃	18kΩ 〃	2
R318,336,418,436	〃 -223	〃	22kΩ 〃	4
R322,422	〃 -333	〃	33kΩ 〃	2
R310,311,316,335, 337,410,411,416, 435,437	〃 -473	〃	47kΩ 〃	10
R317,327,417,427	〃 -563	〃	56kΩ 〃	4
R302,303,326,402, 403,426	〃 -104	〃	100kΩ 〃	6
R305,314,405,414	〃 -274	〃	270kΩ 〃	4
R315,415	〃 -564	〃	560kΩ 〃	2
C301,302,401,402	QEB41EM-475	L.L.E. Capacitor	4.7μF 25V	4
C311,411	QEE41EM-335	T.S.E. Capacitor	3.3μF 〃	2
C306,406	〃 -475	〃	4.7μF 〃	2
C323,325,423,425	QEW41CA-106	E. Capacitor	10μF 16V	4
C313,318,413,418	〃 -336	〃	33μF 〃	4
C327,328,427,428	QEW41EA-335	〃	3.3μF 25V	4
C314,317,319,322, 414,417,419,422	〃 -475	〃	4.7μF 〃	8
C308,315,326,408, 415,426	〃 -106	〃	10μF 〃	6
C330	〃 -107	〃	100μF 〃	1
C329,429	QFM41HK-182	Mylar Capacitor	1800PF 50V	2
C304,404	QFM41HJ-183	〃	0.018μF 〃	2
C303,403	〃 -223	〃	0.022μF 〃	2
C305,405	〃 -104	〃	0.1μF 〃	2
C321,421	QFM41HK-332	〃	0.033μF 〃	2
C324,424	〃 -102	〃	0.01μF 〃	2
C312,412	QCS11HK-120	Fixed C. Capacitor	12PF	2
C310,410	〃 -101	〃	100PF	2
C316,416	〃 -221	〃	220PF	2
C307,407	〃 -181	〃	180PF	2
C320,420	QCS11HJ-151	〃	150PF	2
L301,401	TAC000324-01	Inductor	18mH	2
R338,438	QVP8A0B-013	V. Resistor	1kΩ (B)	2
R312,323,412,423	〃 -053	〃	5kΩ (B)	4
R325,425	〃 -024	〃	20kΩ (B)	2
X303,403	2SA721TU	Si. Transistor		2
X301,305,401,405	2SC828RS	〃		4
X302,402	2SD545NRVS	〃		2
X304,404	2SC1327TU	〃		2
IC301,401	TA7140P-B	IC		2
D301,302,401,402	OA90	Ge. Diode		4
D303,403	VD1212	Si. Diode Varistor		2
S301-1~4, 401-1~4	*QSSA201-001	Slide Switch		1
	QMC0627-001	Plug Ass'y		2

Switch Circuit Board

Red print is shown the voltage (V) of playback mode.
( ) voltage; at recording mode.
When you measure the voltage by tester, we recommend you to use 20kΩ/V or more impedance tester.



Peak Level Indicator Circuit Board
M-1
M-2
M-3
M-4
M-5
M-6
BIAS Switch Circuit Board
Bias Current
(Normal – R) (Chrome – R) (Normal – L) (Chrome – L)
R605
R604
R705
R704
OSC Coil
X801
R802
(-0.8)
0.7
Equalizer Switch Circuit Board
X601
X701
2.4
1.8
13.5
(Normal – L) (Chrome – L) (Normal – R) (Chrome – R)
REC Gain Adj.
R606
R607
R706
R707
Mic Jack Circuit Board
DIN ④
DIN ①
94V-1 D74
* Adjust semi-fixed resistors by parts side.

* Adjust semi-fixed resistors by parts side.

Fig. 18

Switch Circuit Board Parts List

Ref. No.	Part No.	Part Name	Remarks	Q'ty
	*TAA313312-01	Circuit Board		1
(Bias Switch Circuit)				
R802	QRD146K-100	C. Resistor	10Ω ¼W	1
R803	〃 -151	〃	150Ω 〃	1
R804	QRD142K-331	〃	330Ω 〃	1
R601,701	〃 -153	〃	15kΩ 〃	2
R801	〃 -563	〃	56kΩ 〃	1
R602,603,702,703	〃 -154	〃	150kΩ 〃	4
R604,605,704,705	QVP8A0B-015	V. Resistor	100kΩ	4
C805	QEW41EA-475	E. Capacitor	4.7μF	1
C801,803	QFM42AK-103	Mylar Capacitor	0.01μF 100V	2
C802	〃 -153	〃	0.015μF 〃	1
C601,701	QCS11HJ-151	Fixed C. Capacitor	150PF	2
C602,702,804	QFZ0001-102	Poly Capacitor	0.001μF	3
L601,701	TAC000324-01	Inductor	18mH	2
L801	〃 -03	〃		1
	TAC330411-01	OSC Coil		1
	*QSP0259-102	Push Switch		1
X801	2SC828ARS	Si. Transistor		1
(Equalizer Switch Circuit)				
R614,714	QRD142K-560	C. Resistor	56Ω ¼W	2
R613,713	〃 -561	〃	560Ω 〃	2
R612,712	〃 -332	〃	3.3kΩ 〃	2
R609,709	〃 -153	〃	15kΩ 〃	2
R615,715	〃 -273	〃	27kΩ 〃	2
R611,711	〃 -333	〃	33kΩ 〃	2
R608,708	〃 -103	〃	10kΩ 〃	2
R610	〃 -274	〃	270kΩ 〃	1
R617,717	〃 -104	〃	100kΩ 〃	2
R616,716	〃 -124	〃	120kΩ 〃	2
R619,719	〃 -564	〃	560kΩ 〃	2
R805	〃 -331	〃	330Ω 〃	1
C604,605,704,705	QEW41EA-475	E. Capacitor	4.7μF 25V	4
C603,703	QEB41HM-154	L.L.E. Capacitor	0.15μF 50V	2
C610,710	QFM41HK-152	Mylar Capacitor	0.0015μF 〃	2
C608,708	QCS11HJ-471	〃	470PF 〃	2
C606,706	QFM41HK-562	〃	0.0056μF 〃	2
C607,707	〃 -273	〃	0.027μF 〃	2
C612,712	QFM41HJ-562	〃	0.0056μF 〃	2
C609,709	QCS11HK-181	Fixed C. Capacitor	180PF	2
C611,711	〃 -271	〃	270PF	2
L602,702	TAC000324-07	Inductor		2
R606,607,706,707	QVP8A0B-054	V. Resistor	50kΩ	4
X601,701	2SC828ARS	Si. Transistor		2
	*QSP0259-101	Push Switch		1

Mechanical Component List

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
1	*TGB313102-0A	Chassis Base Ass'y		1
2	*TFB313448-01	Slide Bar		1
3	*TER313505-01	Spacer		2
4	*TFB313449-01	FF Bar		1
5	*TGB313451-0A	Pause Bar Ass'y		2
6	*TFB313454-01	Lock Plate		1
7	*TFW313478-01	Lock Spring	for Lock Plate	1
8	*TGB313418-0A	Rew Bar Ass'y		1
9	*TER313505-01	Spacer	for Rew Bar	1
10	T47477-003	Felt		1
11	TFB271509-01	Washer		1
12	*T47477-004	Felt		1
13	*TGB313463-0A	Rec Bar (1) Ass'y		1
14	*TFB313562-01	Rec Bar (2)		1
15	*TGB313302-0A	Head Panel Ass'y		1
16	*ZMM037301-01	RP Head Ass'y		1
17	TCS2006Z	Screw	for RP Head	2
18	SPSX2608Z	〃	〃	1
19	*TFH313458-01	RP Head Screw	〃	1
20	THS265480-0A	E Head Ass'y		1
21	*T30302-071	Coller	for E Head	1
22	SPSX2006Z	Screw	〃	1
23	T45640-01	Wire Clamp		1
24	*TFB313510-01	Spring Stopper		1
25	T41615-004	Steel Ball		4
26	*TFB313459-01	Head Panel Spring (1)	for Head Panel	1
27	T41615-004	Steel Ball		1
28	*TFB313460-01	Head Panel Spring (2)		2
29	T41615-004	Steel Ball		2
30	*TFB313462-01	Slider	(Head Panel)	1
31	*TFB313468-01	Rec Lever		1
32	*TER313461-01	Cushion	for Head Panel	2
33	*TFB313469-01	FF Lever		1
34	*TFB313470-01	Rew Lever		1
35	*TFH313471-01	Release Lever Shaft		1
36	*TFB313472-01	Release Lever		1
37	*TFW313473-01	Release Rod	for Release Lever	1
38	TDP281305-01	Solenoid	for Timer Rec	1
39	TFH281422-01	Pin	for Solenoid	1
40	*TGP313407-0A	Idler Arm Ass'y		1
41	*TGD313427-0A	Capstan Metal Ass'y		1
42	*TFB313306-01	Push Button Case		1
43	*TFH313474-01	Push Button Shaft		1
44	*TFB313475-01	Push Button Lever (1)		1
45	*TFB313476-01	〃 (2)		5
46	*TEP313479	Button Lever Stopper		1
47	*TFB313480-01	Push Button Bracket (L)		1
48	*TFB313481-01	〃 (R)		1
49	*TFB313482-01	Push Button Cam		1
50	*TFH313483-01	Collar	(Button Cam)	2
51	*TFW313477-01	Push Button Spring	for Button Lever	6
52	*TJB313307-01	Push Button Knob	Rec	1
53	* 〃 -02	〃		4
54	* 〃 -03	〃	Stop	1
55	*TGB313304-0A	Lock Plate Ass'y		1
56	*TFH313485-01	Collar	Lock Plate	1
57	TER313461-01	Cushion	for Lock Plate	1

— Continued on page 29 —

Mechanical Components (1)

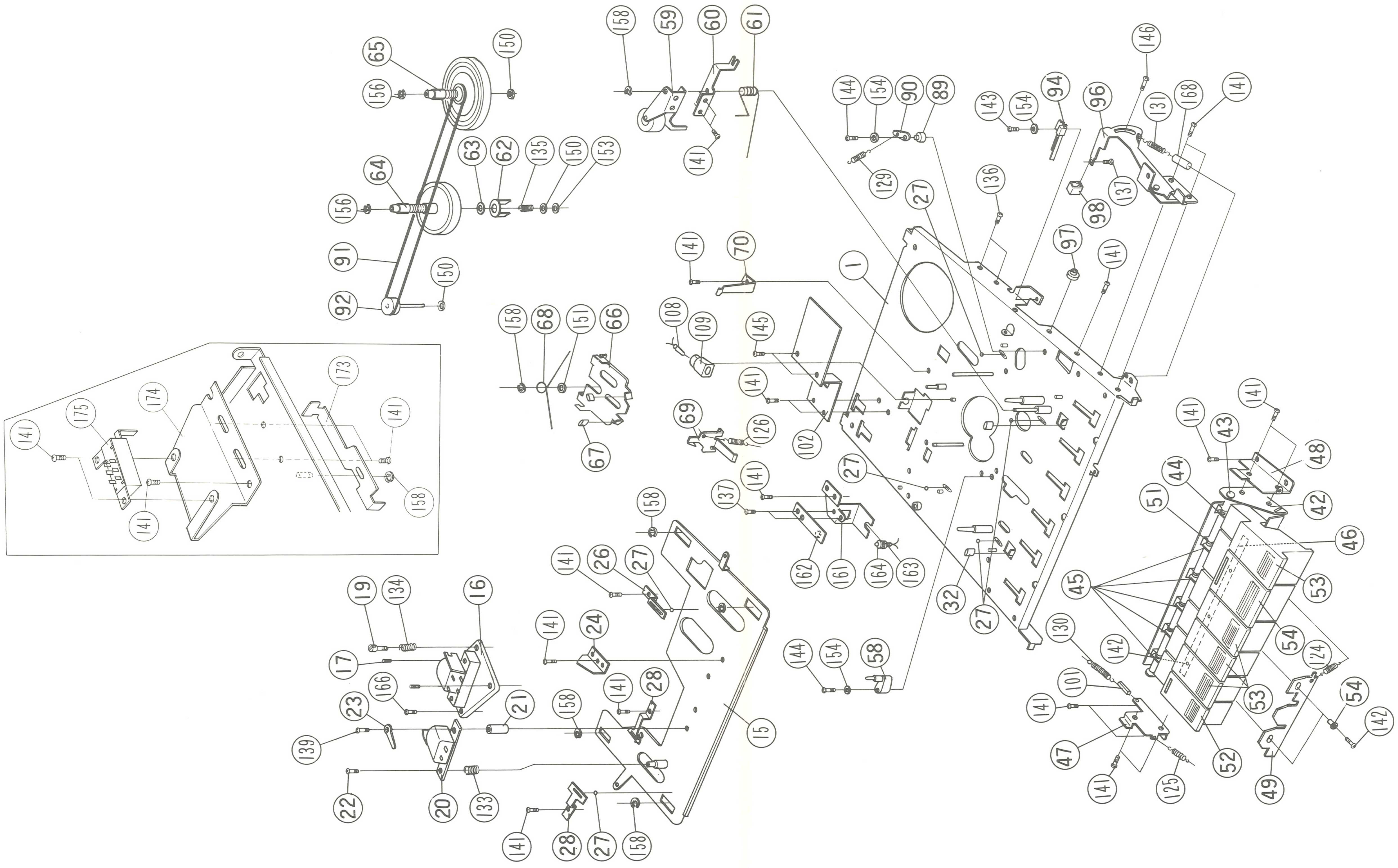

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Fig. 19

Mechanical Component (2)

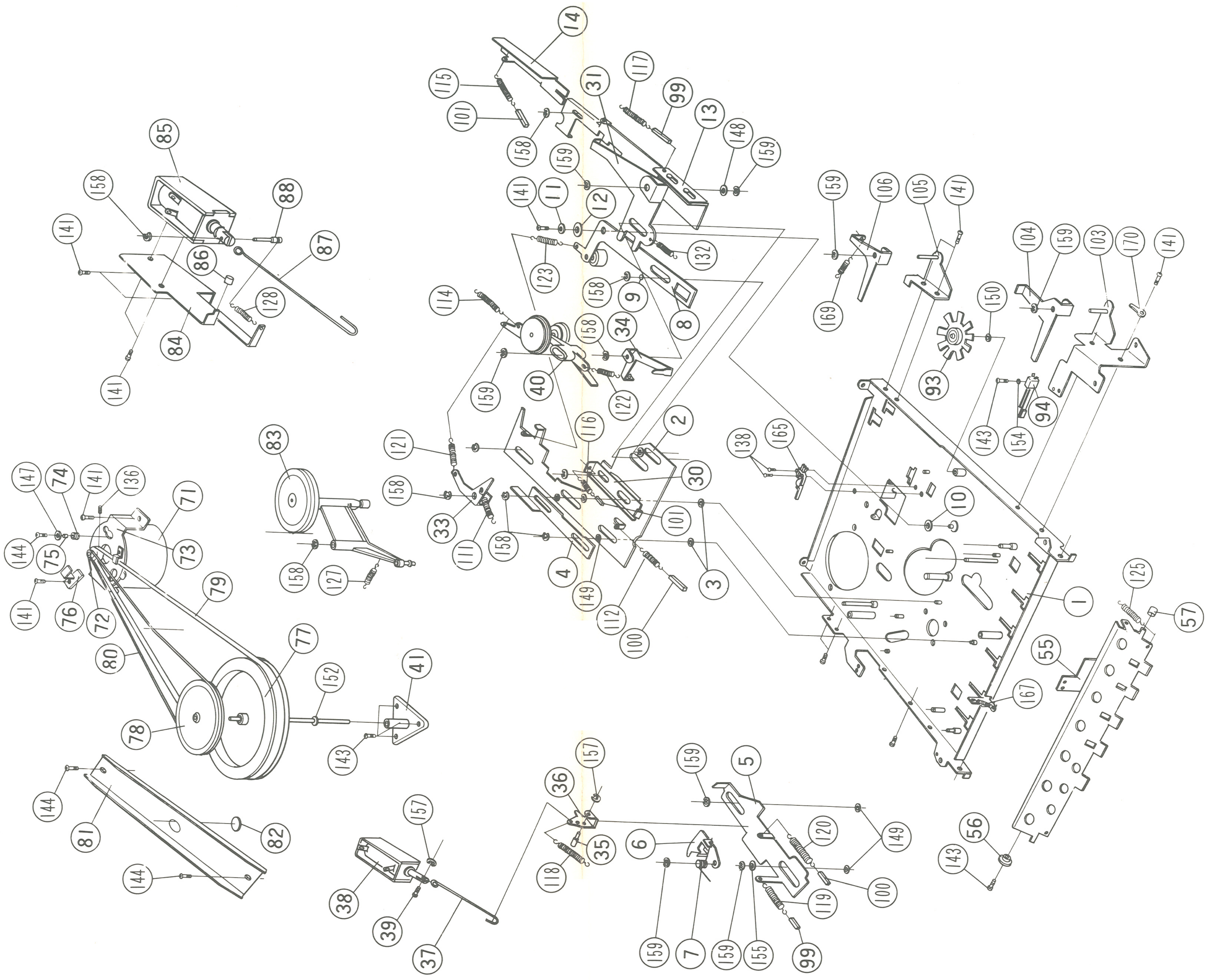

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Fig. 20

— Continued from page 26 —

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
58	*TEP313423-01	Cassette Guide		1
59	*TGB313486-0A	Pinch Arm Ass'y		1
60	*TFB313488-01	Pause Lever		1
61	*TFW313489-01	Pinch Roller Spring		1
62	*TFB313490-01	Friction Plate		1
63	*T47477-005	Felt		1
64	*TGP313401-0A	Supply Disk Ass'y		1
65	*TGP313414-0A	Take Up Disk Ass'y		1
66	*TFB313491-01	Brake Bar		1
67	*TER313493-01	Brake Rubber		2
68	*TFW313492-01	Brake Spring		1
69	*TFB313882-01	Rec Safety Lever		1
70	*TFB313495-02	Cassette Spring		1
71	*m1605-00A	Motor Ass'y		1
72	*TFH313496-02	Motor Pulley		1
73	*TFB313497-01	Motor Bracket		1
74	53492	Rubber Bushing	for Motor	3
75	T30302-058	Collar		3
76	TEP313498-01	Belt Guide	(Motor Bracket)	2
77	*TEW313301-0A	Flywheel Ass'y		1
78	*TEP313424-01	Idler Pulley	for Flywheel	1
79	*TEB313499-01	Capstan Belt		1
80	*TEB313500-01	Take Up Belt		1
81	*TFB313501-01	Holder Bracket		1
82	T42074-002	Bearing	for Holder Bracket	1
83	*TGP313403-0A	Take Up Lever Ass'y		1
84	*TFB313502-01	Solenoid Bracket		1
85	*TDP313308-01	Solenoid	for Auto Stop	1
86	*TER313461-01	Cushion	for Solenoid Bracket	1
87	*TFW313504-01	Rod	for Auto Stop	1
88	*TFH313503-01	Shaft	for Solenoid	1
89	*TFH313506-01	Collar	for Eject Safety Lever	1
90	*TFB313507-01	Eject Safety Lever		1
91	*TEB313508-01	Counter Belt (1)		1
92	*TGP313425-0A	Counter Pulley Ass'y		1
93	TEP313426-01	Fan Pulley	for Auto Stop	1
94	TDS006334-02	Switch Ass'y	for Pause	1
95	VSM1208-002	〃	for Motor	1
96	*TGB313555-0B	Eject Lever Ass'y		1
97	*TFH313559-01	Collar	for Eject Lever	1
98	*TEP313543-01	Lever Cap		1
99	TJN265559-01	Silencer	Rec Bar ~ Slider Pause Bar ~ Chassis)	2
100	* 〃 -03	〃	Slide Bar ~ Chassis Pause Bar ~ Button Lever)	2
101	* 〃 -04	〃	Head Panel ~ Slider Rec Bar (2) ~ Chassis Head Panel ~ Bracket	3
102	*TFB313561-01	Bracket	for Motor Circuit Board	1
103	*TGB313546-0A	Rec Bracket (1) Ass'y		1
104	*TFB313547-01	Rec Lever (1)		1
105	*TGB313549-0A	Rec Bracket (2) Ass'y		1
106	*TFB313550-01	Rec Lever (2)		1
107	*TFW313551-01	Rod Spring		1
108	*T47861-003	Pilot Lamp		1
109	E46029-001	Rubber Bushing		1
110	TDS000334-02	Switch Ass'y		1

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
111	T30300-176	Spring	FF Lever ~ Chassis	1
112	〃 -029	〃	Slide Bar ~ Chassis	1
113	〃 -047	〃	Rew Bar ~ Slide Bar	1
114	〃 -079	〃	Idler ~ Chassis	1
115	〃 -156	〃	Rec Bar (2) ~ Chassis	1
116	〃 -158	〃	Head Panel	1
117	〃 -159	〃	Rec Bar	1
118	〃 -160	〃	Release Lever ~ Stud	1
119	〃 -179	〃	Pause Bar ~ Chassis	1
120	〃 -162	〃	Button Lever ~ Pause Bar	1
121	〃 -163	〃	Idler ~ FF Lever	1
122	〃 -164	〃	Idler ~ Rew Lever	1
123	〃 -165	〃	Rew Bar ~ Slide Bar	1
124	〃 -166	〃	Cam ~ Chassis	1
125	〃 -167	〃	Lock Plate ~ Chassis	1
126	〃 -168	〃	Lever ~ Chassis	1
127	〃 -169	〃	Take Up Lever ~ Chassis	1
128	〃 -170	〃	Shaft ~ Bracket	1
129	〃 -171	〃	Safety Lever ~ Chassis	1
130	〃 -172	〃	Head Panel ~ Bracket	1
131	〃 -173	〃	Eject Lever	1
132	〃 -174	〃	Rec Lever ~ Chassis	1
133	T30301-119	〃	E Head	1
134	〃 -120	〃	RP Head	1
135	〃 -121	〃	Back Tension	1
136	TRS2603Z	Screw	Motor Pulley	2
137	SPSP2004Z	〃	Lever Cap, Bkt + C. Board	3
138	SPSP2008Z	〃	Motor Switch, SW Ass'y	4
139	SPSP2016Z	〃	E Head	1
140	LPSP2603Z	〃	Solenoid	2
141	LPSP2604Z	〃	Head Panel Spring, R Lever Shaft, Button Bracket, Button Case, Cassette Spring, Pinch Arm, Pause Lever, Belt Guide, Solenoid, Lever Ass'y, C. Board Bracket, Rec Bkt (1), (2) + Mecha	29
142	LPSP2605Z	〃	Stopper, Collar	5
143	LPSP2606Z	〃	Metal Lock Plate, Switch Collar, SW Ass'y	7
144	LPSP2608Z	〃	Cassette Guide, Motor, Eject Lever	5
145	SPSP3004Z	〃	Circuit Board	2
146	SPDP2606Z	Screw	Eject Lever	1
147	〃 -154	Washer	Motor	3
148	Q03093-405	〃	Rec Lever	1
149	〃 -416	〃	FF Bar, Puase Bar	1
150	〃 -435	〃	Supply Disc, Take Up Disc, Counter-Pulley	4
151	〃 -502	〃	Brake Bar	1
152	〃 -611	〃	Flywheel	1
153	WNB2000N	〃	Supply Disc	1
154	WSS2600N	〃	Cassette Guide	1
155	WSB3000N	〃	Pause Bar	1
156	RES1200	"E" Ring	Supply Disc, Take Up Disc (Black)	2
157	REE1500	〃	Release Lever, Pin	1

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
158	REE2500	"E" Ring	Slide Bar, FF Bar, Pause Bar Rec Bar, Head Panel, FF Lever, Rew Lever, Pinch Arm, Brake Bar, Take Up Lever, Shaft	20
159	REE3000	〃	Rec Bar, Rec Lever, Idler Arm, Rec Bracket (1), Rec Bracket (2)	5
161	*TFB313553-01	Bracket	for Cds	1
162	T45616-001	Cds Photo Cell		1
163	53492-001	Rubber Bushing		1
164	T46821-001	Pilot Lamp		1
165	VSM1208-002	Switch Ass'y		1
166	SPSX2608Z	Screw	for R/P Head	1
167	*T30300-175	Spring	Stop Button Lever ~ Chassis	1
168	*QXTV40H-030	Spaghetti	Eject Lever	1
169	*TFW313551-01	Rod Spring	ANRS Switch	1
170	51739-002	Lug		1
171	BPSP2606Z	Screw		1
172	TER313570-01	Motor Cushion		1
173	TFB313568-01	Muting Bar		1
174	TFB313567-01	Switch Bracket		1
175	T30483-00C	Switch		1

Enclosure Ass'y and Electrical Parts List except Circuit Board Parts List

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
1	*TJP313103-0B	Front Panel Ass'y		1
2	*TJM313105-0A	Top Cabinet Ass'y		1
3	*TJE313525-01	Cassette Indicator		1
4	*TJM313108-0A	Bottom Cabinet Ass'y		1
5	*TGN328301-01	Counter Ass'y		1
6	*TEB313509-01	Counter Belt (2)		1
7	*TJM313316-0A	Cassette Lid Ass'y		1
8	*TJP313317-01	Lid Cover		1
9	*TFH313536-01	Pilot Shaft		2
10	*TJP313552-01	Sheet	for Cassette Indicator	1
11	*TFW313537-01	Spring		2
12	*TFB313538-01	Bracket		2
13	*TFB313539-01	〃		2
14	*TFB313541-01	Lock Bracket		1
15	*TJK313521-01	Eject Knob		1
16	*TFB313522-01	Bracket		1
17	*TEP313560-01	Lock Mould		1
18	*TJK313527-01	Select Knob	CrO_2	1
19	* 〃 -02	〃	CrO_2, Fe-Cr	1
20	* 〃 -03	〃	SF	2
21	* 〃 -04	〃	NORMAL	1
22	* 〃 -05	〃	NORMAL, Fe-Cr	1
23	* 〃 -06	〃	SUPER, ANRS	1
24	* 〃 -07	〃	ANRS	1
25	*TEP313528-01	Knob Spacer		8
26	*TER313529-01	Switch Cushion		8
27	*TJK313532-01	Power Knob		1
28	*TJK313534-01	Slide Knob		5
29	*TJW313109-02	Wood Cabinet	CD-1770B/E	1
	* 〃 -04	〃	CD-1770/A/C	1
30	*TJM313315-01	Head Cover		1
31	*TJG313542-01	H.C. Plate		1
32	TJL271485-01	Mark		1
33	*TDM313314-01	VU Meter		2
34	QMC0657-001	Socket Ass'y		1
35	*TJL000342-04	Name Plate	CD-1770	1
	〃 -07	〃	CD-1770A	1
	〃 -05	〃	CD-1770B	1
	〃 -09	〃	CD-1770C	1
	〃 -06	〃	CD-1770E	1
36	QSP1110-222	Push Switch	for Power S1, CD-1770/C	1
	QSP2111-011	〃	〃 CD-1770A/B/E	1
37	QFH72BM-223	M.M. Capacitor	C1 CD-1770/C	1
38	T47047-001	C. Cap	CD-1770/C	1
39	*TFB313309-01	Trans Bracket		1
40	TAP334301-01	Power Trans	CD-1770/C	1
	TAP330306-02	〃	CD-1770A/B/E	1
41	QMP1700-244	Power Cord	CD-1770/C	1
	QMP2500-200	〃	CD-1770A	1
	QMP9017-007	〃	CD-1770B	1
	QMP3900-244	〃	CD-1770E	1
42	QHS3876-162	Cord Stopper		1
43	FG9060-001	Connector		1
44	*TAJ313310-01	Jack Ass'y	PIN/DIN	1
45	*TFB313563-01	Plate Nut		2
46	TAJ305307-02	Jack Ass'y	MIC/H.P	1
47	E40130-001	Tab		2
48	QRD143K-102	C. Resistor	R101,201	2
49	〃 -822	〃	R102,202	2

Enclosure Assembly and Electrical Parts Except Circuit

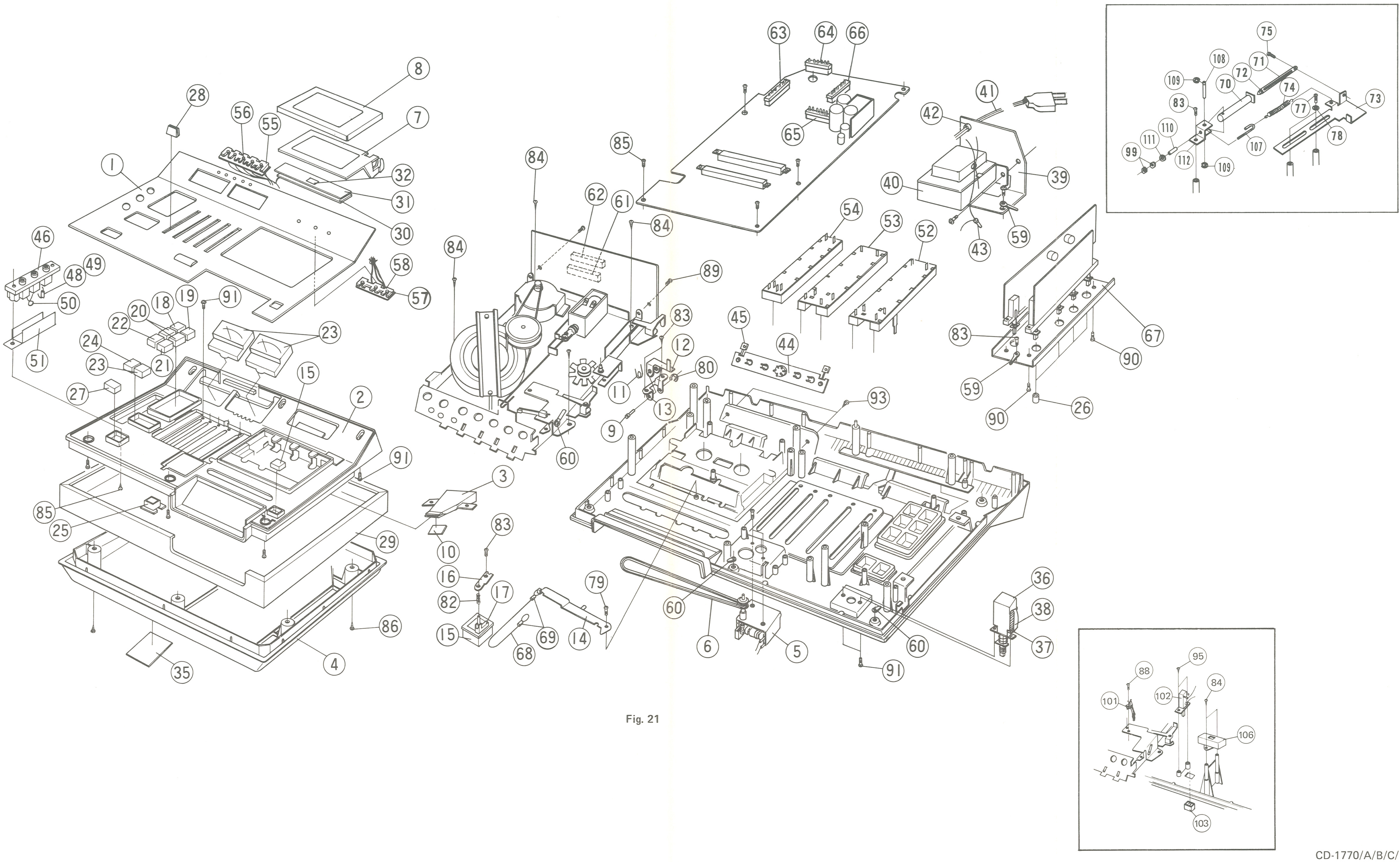
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Fig. 21

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
50	QCY41HK-102	Fixed C. Capacitor	C101,201	2
51	* TAS313564-01	Shield Case		1
52	QVZ6103-001	V. Resistor	for Mic R146,246	1
53	〃 -002	〃	for Pin R147,247	1
54	QVS9C7A-014AA	〃	for P.B R148,248	1
55	* TEP313512-01	Spacer		1
56	TLR102	LED	D501~505	5
57	TLR105	〃	D506~508	3
58	* TEP313513-01	Spacer		1
59	TAW000473-01	Wire Clamp		4
60	51739-002	Lug		2
61	TAH000459-03	Mark		1
62	〃 -04	〃		1
63	〃 -05	〃		1
64	〃 -06	〃		1
65	〃 -07	〃		1
66	〃 -08	〃		1
67	* TFB313517-01	Switch Bracket		1
68		Cord	φ0.5 x 165m/m	1
69	EYB2005	Ring	for Cord	2
70	TEP267495-0B	Bracket Pipe Ass'y		1
71	TEP267490-03	Brake Shaft		1
72	TER267508-02	"O" Ring		1
73	TFB313565-01	Bracket		1
74	T30300-019	Spring		1
75	SPSP2010Z	Screw		1
77	LPSP3006ZS	Tapping Screw		2
78	WNS3500N	Washer		2
79	LPSP3008ZS	Screw		1
80	REE2000	"E" Ring		1
81	T30300-063	Spring		1
82	T30301-104	〃	for Eject Knob	1
83	SBSB3008Z	Screw	Bkt + Top Cabi	3
84	SBSB3010Z	〃	Mecha + Top Cabi	2
			SW + Top Cabi, CD-1770A/B/E	2
85	SBSB4010Z	〃	Jack + Top Cabi, C.B + Top Panel	4
86	SBSB4014Z	〃	Top Cabi + Bottom Cabi	6
87	SPSP2612N	〃	Mecha + Top Cabi	1
88	LPSP2606Z	〃	Cds C.B + Mecha, SW + Mecha	3
89	LPSP3006VS	〃	ANRS C.B + Mecha	2
90	LPSP3006ZS	〃	Counter + Top Cabi	5
			Bias SW + Bkt	
			EQ, SW + Bkt	
91	DPSP3008ZS	〃	S1 + Top Cabi	14
			P. Trans Bkt + Top Cabi	
			V.R + Top Cabi	
92	DPSP3010Z	〃	Front P. + Top Cabi	6
93	SBSB3010RS	〃	Jack Ass'y + Top Cabi	2
			SW + Top Cabi, CD-1770A/B/E	2
94	LPSP3005Z	〃	Lock Bkt + Top Cabi	1
95	SBSB2608Z	〃	Top Cabi + SW	2
96	LPSP4006Z	〃	for Earth, CD-1770B	1
97	WBS4000	Teeth Washer	〃 CD-1770B	1
98	DPSP3006ZS	Screw	P. Trans + Bkt, CD-1770B	2
99	NTB2300S	Nut	for Shaft	2
101	TDS000334-03	Switch Ass'y	for Rewind	1
102	QSP2211-001	Push Switch	for Memory	1
103	TJK328401-01	Knob	for Push Switch	1

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
104	TAW272462-01	Lug	for Earth, CD-1770B	1
105	V42385-001BS	Earth Seel	〃 CD-1770B	1
106	QSS2325-006	Slide Switch	for Voltage Select SW CD-1770A/B/E	1
107	TFP313574-01	Brake Rod		1
108	TFH267425-01	Shaft	for Brake Pipe	1
109	REE2000	"E" Ring	for Shaft	2
110	T30302-077	Collar		1
111	WNS2600N	Washer		1
112	TFB313569-01	Brake Arm		1

Accessories

Part No.	Part Name	Remarks	Q'ty
T30046-00B	Pin Cord Ass'y	CD-1970/A/C	2
CN-201	Din Cord Ass'y	CD-1970B/E	1
T47796-00B	Head Cleaning Stick		2
AP4056A-024	Envelope	for H.C. Stick	1
TLT000429-01	Caution Card		1
TLT000448-01	Caution Label	UL Caution CD-1770/C	1
BT20022C	Warranty Card	CD-1770/C	1
TLT052401-01	Warning Label	CD-1770A/B/E	1
T46328-003	Caution Card	CD-1770A	1
TJL000443-01	Seal	for Front Panel CD-1770/B/E	1
QZL1002-003	Warning Label	for Power Cord CD-1770B	1
TLT279402-01	Security S. Label	CD-1770E	1
TLJ000476-02	ANRS Seal		1
TLJ000477-02	Super ANRS Seal		1
T7435EGF	Instruction Book		1
T46965-002	Demo Cassette		1
T46328-004	Caution Card	CD-1770E	1
QZL1031-001	SEV Seal	〃	1
BT20029	Warranty Card	CD-1770A	1
BT20023	Service Procedure	CD-1770	1
BT20024	Special Reply Card	〃	1
QZL1011-001	FTC Label	〃	1
QZL1001-001	UL Label	〃	1

Packing

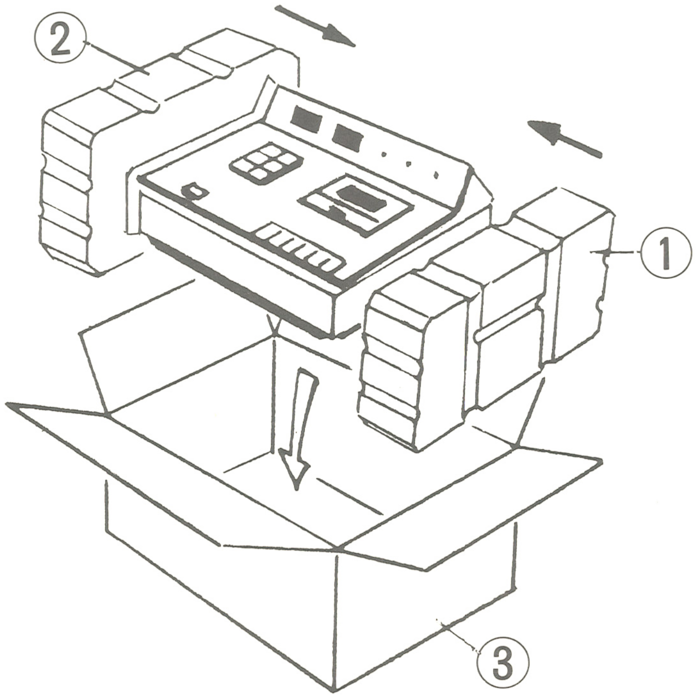

Fig. 22

Packing List

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
	TKB313566-0B	Packing Case Ass'y	CD-1770/A/B/E	1set
	〃 -0C	〃	CD-1770C	1set
	〃 -04	Case	CD-1770/A/B/E	1
	〃 -05	〃	CD-1770C	1
	TKC313110-01	Cushion	(L)	1
	TKC313111-01	〃	(R)	1
	AP4056A-036	Envelope	for Pin Cord	1
	QPGA055-06005	〃	for Set	1
	AP4056A-077	〃	for Instruction Book	1